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Hygeia

THE HEALTH MAGAZINE

JAN 21 1948

NASAL NIGHTMARE

STRAIGHT FACTS ON THE HEART

THE ASTHMA PROBLEM

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We've Had Them

Question:—Please tell me why children are so much more likely than adults to catch the various contagious diseases. Is it because they do not understand and practice basic principles regarding sanitation and cleanliness?

Oklahoma

Answer:—Children are more susceptible to contagious disease than adults because a large part of the adult population has had most of the common diseases, such as whooping cough, measles, chickenpox and mumps, during childhood.

In many instances the disease was so mild that it may not have been accurately identified. Unquestionably many adults are "hazy" about what so-called childhood diseases they have had. In the diseases mentioned, immunity is built up, and in practically all cases this immunity is lifelong.

A striking example of adult susceptibility was provided during the war years. Recruits drawn from rural areas, where there is less exposure to such diseases ordinarily and, therefore, a lower incidence, developed measles, the so-called three-day measles, mumps and chickenpox literally by the thousands, reports from the various camps throughout the country showed. Another example of absence of adult resistance to such disease is found in experiences of various tribes in remote areas of the world. There have been reports of practical decimation of such tribes when they were first exposed to diseases that are relatively mild where the frequent contacts of urban civilization have built up adult immunity.

Birthmarks

Question:—I recently read somewhere that it was unsafe to treat birthmarks on a baby with x-rays or radium because they may become cancerous later in life. Is this true?

Texas

Answer:—There is no scientific basis for such a statement as applied to what are customarily referred to as birthmarks, the cauliflower-like collection of small blood vessels immediately beneath the skin. The technical name for these is angioma or hemangioma. Used properly, this form of treatment brings highly satisfactory results. It is of course always necessary to be sure that treatment is given by a physician competent in this branch of medical treatment.

Spare the Child

Question:—What is the present concept regarding physical punishment of children by a teacher? Is it believed justified in extreme cases? What may be objectionable features?

Georgia

Answer:—Use of the natural positive rewards to be found in satisfying activity has to some extent replaced the negative motivation of punishment in our public schools. Educators today emphasize the value of guidance, and stress the importance of seeking out underlying causes of pupil behavior problems. The cruder forms of corporal punishment that sometimes result in bodily harm have been eliminated almost everywhere. Some educators defend the rare use of physical punishment upon a particularly remiss pupil and the courts have generally held that reasonable punishment for acts detrimental to the best interests of the school is within the authority of the teacher. All agree, however, that common resort to physical force is undesirable.

The reaction produced by severe punishment is primarily fear. While this is a compelling factor, and often is sufficient to make the pupil "behave," it may be accompanied by loss of pupil initiative and development of inhibitions that deter educational achievement. Mental and spiritual "whippings," in the forms of sarcasm and ridicule, may be even more of a hindrance to satisfactory pupil progress. As a matter of fact, from the mental hygiene point of view, grave harm may result from such methods.

Recent investigations appear to show that a judicious combination of praise and restraint is better than either used alone. Friendly reproof with constructive suggestion was found to be the most effective com-

(*Continued on page* 88)

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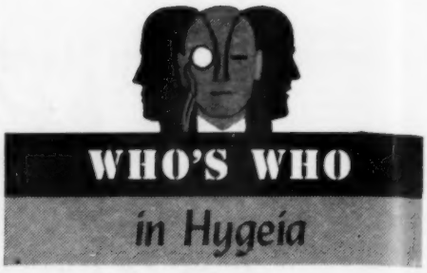

EXPERIMENTS WITH ANIMALS

In "The Bronchoscope and Animal Experimentation," DR. VIRGIL H. MOON discusses the need for animal experimentation in the light of thirty-five years in teaching and research and a love of animals which is perhaps an outgrowth of a boyhood in western Kansas. Since graduating in medicine Dr. Moon has owned twenty-three English setters, both pets and hunting dogs. Since 1927 he has been professor of pathology at Jefferson Medical College, Philadelphia. He began the study of research methods under Ludvig Hektoen in the McCormick Institute of Infectious Diseases in Chicago in 1911, two years before his graduation from Rush Medical College. From 1914 to 1927 he was professor of pathology and bacteriology at Indiana University School of Medicine. For more than sixteen years Dr. Moon's chief interest has been shock, its mechanism, pathology and complications. He has published some twenty-seven original articles and two treatises, embodying the results of these studies. Increased knowledge concerning the origins of shock, how it may be prevented and treated, resulted in the saving of countless lives during the recent war.

RESEARCHER IN HEART DISEASE

DR. WALTER MODELL, author of "Straight Facts about Heart Disease," is an instructor at Cornell University Medical College and fellow of the American College of Physicians. Most of his studies have been in the field of drugs relating to the treatment of heart disease. He has published numerous scientific articles.

TWO CAREERS

DR. CHARLES A. LEVINSON is a dentist and a writer. He says "I graduated Harvard University Dental School in '23 and have been a practicing dentist in Boston ever since. Besides having been a clinician in several institutions (Medical Department of the Burroughs Newsboys Foundation, Boston, and the House of Correction, Deer Island, Boston Harbor), I am also an examining and consulting

(*Continued on page* 86)

Emergency Call in 1900

As long as people get sick, doctors will have midnight emergency calls. But there's one satisfaction today—it's no longer necessary to light the buggy lamps and harness up!

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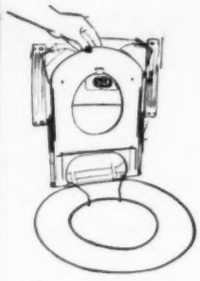

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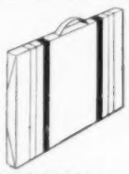
Presto!—the amazingly compact Cher-Chair practically vanishes from view with seat cover down!



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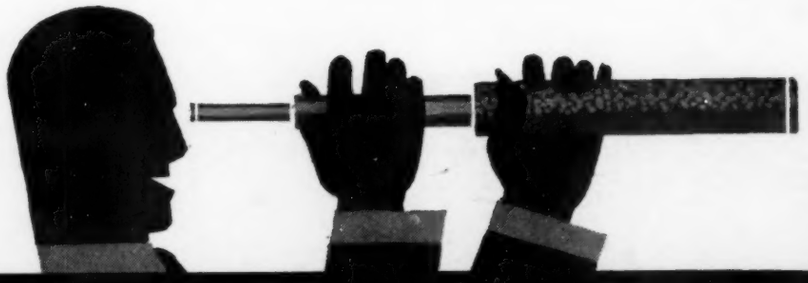


Coming in HYGEIA

CORONARY THROMBOSIS

Not a death sentence

By Irene E. Soehren

Dreaded, often fatal coronary disease is on the increase, and many physicians doubt that all the increase can be explained away by the fact that more people live to old age. Diet, smoking and stress appear to be factors. During the war, many cases were noted among servicemen in their twenties. But as the disease has increased, so has our knowledge of how to cope with it, and it is a hopeful though carefully documented picture that Miss Soehren presents in this forthcoming article.

HERE'S WHAT THAT INDIGESTION MEANS

By Albert F. R. Andresen, M.D.

Do you know that one of the common home remedies for "gas on the stomach" is itself a producer of gas—and an ingredient of many patent medicines? What that and other stomach symptoms mean, along with a description of the more prevalent stomach diseases and what can be done for them, is set forth in an article scheduled for the March HYGEIA that is both good reading and suitable for later reference.

PSYCHOSOMATICS

A new understanding of human ills

By James A. Brussel, M.D.

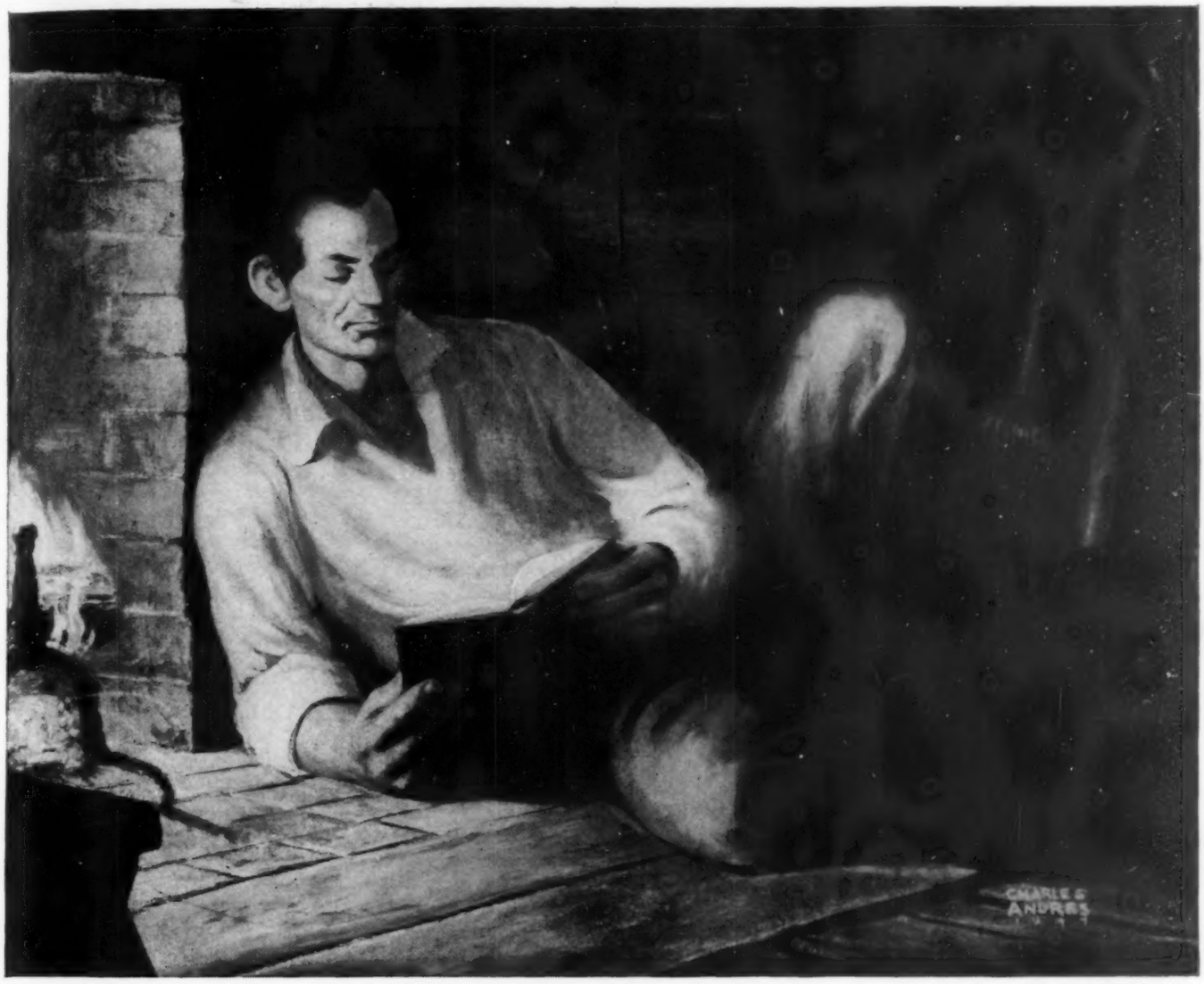
Some illnesses seem purely physical, others purely psychologic in origin, but between these two categories is a wide range of diseases in which both mind and body are factors—and frequently it is impossible to say which was the primary cause. The idea is not new, but its recent applications, especially during and since the war, are bringing relief and recovery to patients who might once have been permanently disabled. This interesting and authoritative article on a much-discussed subject, by a psychiatrist well known to HYGEIA readers, will appear in an early issue.

CAN MEMORY BE IMPROVED?

By Joseph Mayer

The answer is yes. This highly practical discussion, by a distinguished sociologist and economist whose remarkable memory is a by-word among his colleagues, analyzes the psychologic basis of good memory and presents simple means of improving it.

"...to see the right..." ABRAHAM LINCOLN



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HIS EYES WERE GATEWAYS TO GREATNESS

FROM the beginning, those marvelous, all-seeing eyes were at work. By flickering hearthfire, by the dim gleam of candle and lantern, those patient, tired eyes were unfaltering in the search for knowledge and truth, as they probed to "see the right". Through them, *Abraham Lincoln*—the boy, the gangling storekeeper, the traveling lawyer, the great-hearted president—found the Light that was to illumine the pathway to freedom and tolerance for all of mankind. We owe much to Lincoln's immortal eyes.

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QUESTIONS and ANSWERS

Electrolysis

Question:—I am having some hairs on my face removed by the electrolysis method, and have had a total of 17 hours of treatment at $5 an hour. Thus far, I have been unable to see any results. When I ask the operator, I am told that it takes three months for the hair to grow out, so I must be patient. Does this seem correct to you?

California

Answer:—In the electrolysis method of hair removal, a tiny wire is inserted into each hair follicle and a small electric current is then applied. This results, when used properly, in immediate death of the hair-producing structure within the follicle. After the treatment, the individual hair can be lifted out, and no new hair will grow from that follicle. Therefore, results should be observed at once, and these should be permanent. The only apparent possibility in your case is that hairs in adjacent follicles that have not been treated give you the impression that you are not making any progress, but this would imply that the growth is exceedingly dense. The only other possibility is that you are receiving a form of treatment that is not electrolysis although it is called that.

Male Hormone

Question:—A friend has advised me that a hormone called testosterone is good to prevent or correct hardening of the arteries. Do you recommend that I try this?

Montana

Answer:—There is no convincing medical evidence that testosterone has any direct effect upon hardening of the arteries. A result directly contrary to that suggested in the inquiry has been credited to hormonal influence, namely, that they may accelerate hardening of the arteries. This, however, has no more scientific evidence than has the opposite claim. Because the hardening process begins many years before it becomes detectable, its reversal by such a treatment is unlikely.

Dangerous effects may follow use of testosterone. It is known that it may produce enlargement of the prostate, and it has been suggested that "benign" or noncancerous overgrowth may become cancerous as a result of testosterone treatments. It is well known that this hormone will stimulate the growth of prostatic cancer once it has developed. Thorough study of the individual patient is always necessary before final decision can be made regarding such treatment.

Can Sugar Cause Diabetes?

Question:—A salesman in a local food store has warned me to eat less sugar and starch or I am liable to develop diabetes. Is there any truth in this? I also have been told that it is a sign of diabetes if chewing gum dissolves in one's mouth after one has been chewing it a while. Please advise.

Maryland.

Answer:—It is a popular fallacy that excessive use of sugar results in diabetes. In making such statements, so-called "experts" are designating the effect as the cause. Potential or actual diabetics have a special fondness for sweets and starchy foods. The body, unable to utilize such foods, desperately needs their end product, glucose, and demand for this often results in excessive intake of glucose sources.

Although reduction of sweets and starches is of no value in *curing* diabetes, if the amount eaten is kept at a

Answers given here are limited to brief replies to specific questions. Full discussion is not intended. Questions involving diagnosis or treatment should be referred to the family physician.

level that can be utilized by the limited quantity of insulin produced in the diabetic person, symptoms of the disease can be suppressed. In those patients with marked lack of pancreatic function, so little insulin is available that it must be given by injection.

Some chewing gum contains a more easily digestible base than others, and constant action of the salivary ferment, ptyalin, if the gum is chewed for long intervals, may result in breaking up the mass. This would be more likely if the gum were kept at intervals under the tongue or in other parts of the mouth where saliva tends to collect. Eating of sugar when one is chewing gum does tend to cause the gum to dissolve, because the sugar granules penetrate the gum mass. However, a diabetic is not a sugar factory. The only excretion that contains the unused sugar is the urine.

No Overall Medicine

Question:—Does the American Medical Association have circulars stating the best medicines to take for certain things, such as the best iron tonics for anemia?

Minnesota.

Answer:—The American Medical Association does not have circulars, either for physicians or the general public, stating what are "the best medicines to take for certain things." The sick cannot be treated in that manner because all cases are different and even the same case is different at different times. Good doctors treat the patient according to the way he has reacted to the disease present. Although specific infections call forth rather typical reactions in most patients, still there are minor variations in each and every patient. In addition, response of the individual patient to the treatment given may vary greatly. Unless the doctor is able to personalize his supervision, best results cannot be expected.

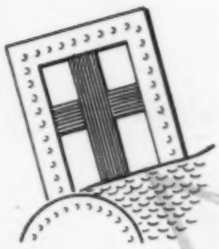
Nobody can treat disease properly with a "blanket" prescription simply because the ingredients in the prescription have been found of value against the type of disease present.

Mighty Muscles

Question:—I have been taking a correspondence course in muscle building, but the other day somebody told me that this is not wise, because large, overdeveloped muscles in the arms, legs and chest are potentially harmful and unnatural. Is that correct?

Indiana

Answer:—Although the question of actual harm cannot be answered dogmatically, symmetrical development



Armor showing ailettes, A. D. 1320

Ailettes, *nothing more than plates of forged iron or steel, were worn over the coat of mail to protect shoulders against blows aimed at the headpiece and glancing off.*

for extra **PROTECTION!**

JUST as ailettes gave added protection, so does this seal or mention of the Wisconsin Alumni Research Foundation on a product give you extra assurance. For this seal warrants the Vitamin D content. It guarantees that the product is regularly subjected to the Foundation laboratory tests to make certain it meets the high standards and rigid requirements. For almost a score of years the medical profession has advised its patients to "look to the Foundation Seal" with full confidence.

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Parents-here's hopeful news about

Rheumatic Fever

1. The disease is causing fewer deaths!

The mortality from rheumatic fever among children has dropped over two thirds during the past 30 years. However, this disease is still childhood's great enemy because it attacks the heart.

Fortunately today most rheumatic fever patients, thanks to earlier diagnosis and good medical and nursing care, may escape serious damage to their hearts and lead normal, active lives.

2. More cases are being caught early!

As more parents learn the signs that *may* mean rheumatic fever—and as more children have periodic medical examinations—an increasing number of cases are being diagnosed in the early stages, when medical science can do most to protect the child's heart.

Rheumatic fever often has no distinctive symptoms, but such conditions as pain in the joints, continued low fever, loss of weight, poor appetite, or a generally "below par" feeling should have immediate medical attention.

3. Recovery is still a slow process!

Effective treatment for rheumatic fever usually requires rest in bed under a doctor's care. A long convalescence is generally necessary to protect the heart and to help it return to normal.

This is the time when parents can do much to help the child by seeing that he is kept occupied and in a cheerful frame of mind. As recovery progresses the doctor will guide the parents in gradually increasing the child's activities.

4. Children can be protected against further attacks!

As rheumatic fever often attacks more than once, it is necessary to guard against a return of the disease. Frequent checkups by a doctor are essential.

Just as important is the parents' co-operation with the doctor. Working as a team they can help protect the child from throat and respiratory infections which often pave the way for rheumatic fever. Good food, plenty of rest, and maintaining a good physical condition are also important safeguards.

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Medical science is constantly working to increase its knowledge of rheumatic fever. For further helpful information about this disease, send for your free copy of Metropolitan's booklet, **82-Z**, "Rheumatic Fever."

of the entire body is more desirable than overdevelopment of certain parts. The average person today has little need for the prodigious muscular development held up as an ideal in the advertisements for such courses. It can be expected that satisfactory muscular growth will take place as a result of a well-rounded program of physical activities including vigorous recreational sports. A thorough medical examination before participation in strenuous physical activities is always a protection to the participant.

Basic requirements are adequate nourishment and sufficient rest. It must be recognized that body development is a progressive matter, and of course activities must be adjusted to the stage of development. Extremely severe exercises cannot be indulged in by young, growing boys or those past middle age to the extent that they can be practiced by youths in the late high school and college ages.

When one feels the need for individual exercises to aid development they can best be planned through personal consultation with a professionally prepared physical educator.

Removing Acne Scars

Question:—Can pits and scars left by acne be removed by skin grafting or any other method known?

Illinois

Answer:—Yes, to a certain degree. Gradual peeling induced by irritating local applications, by repeated mild burns with ultraviolet radiation, by application of carbon dioxide dry ice or snow, or by various combinations of these, will obliterate the more superficial scars and improve the appearance of the deeper ones.

No general statement can be made about surgical treatment for acne scars. There is no generally accepted surgical method of peeling large areas, and even the cutting out of individual large and disfiguring scars should be done only by a competent plastic surgeon. This is rarely necessary or desirable.

Extensive scarring can usually be avoided by early treatment of acne, particularly by the use of x-rays in the proper amount, under the direction of a competent dermatologist. Contrary to an often expressed popular misapprehension, x-ray in the proper dosage does not, in itself, cause scars in acne. Acne is essentially a scarring disease whether the scars are microscopic in size and invisible to the naked eye or very large and unsightly. X-ray treatment in proper amounts always inhibits scarring, for it destroys the inflammatory tissue that produces the scar while allowing natural tissue to recover.

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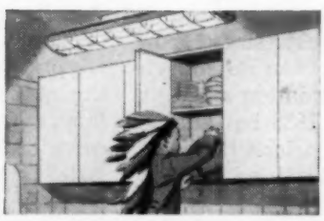

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G-E SILVERED BOWL bulb gives soft, indirect light. Many sizes for homes, offices, factories 500-watt **$1.70**

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Who's Who

(*Continued from page* 78)

dentist for industrial firms, restaurant concerns, national food associations, food companies and insurance companies." Dr. Levinson was awarded a Massachusetts Hygiene Council Prize in 1921. He is the author of the books "Food, Teeth and Larceny" and "The Examining Dentist in Food Hazard Cases." His articles on popular subjects with dental angles have appeared in such magazines as *Dental Survey, Digest and Review, Negro Digest, March of Progress, Journal of Living* and *The Apothecary*. "Mother, Guard Those Baby Teeth" is on page 122.

ENGINEER IN POLITICS

"How Well Do We Feed Our Children?" on page 94 is an outgrowth of State Senator THOMAS C. DESMOND's work as chairman of the New York State Joint Legislative Committee on Nutrition from 1942 to 1947, the five years of the Committee's existence. He sponsored a bill which provided a $2,500,000 appropriation for school lunches in the state. He is also chairman of the Legislative Committee on Problems of the Aging. Before he entered the State Senate, Mr. Desmond, an engineer, graduate of M.I.T., had been a builder of subways, ships and skyscrapers. During World War I he recruited 3,000 engineers and construction men for the Roosevelt Volunteer Division enrolled for service in France. He was elected to the senate in 1930.

ANOTHER SKIN ARTICLE

DR. LESTER HOLLANDER, a frequent contributor to HYGEIA, has written another informative skin article entitled "Rosacea, the Middle Age Blush." Dr. Hollander has been a practicing dermatologist since 1918 and medical director of the Pittsburgh Skin and Cancer Foundation since its inception in 1923. In 1933 he became a diplomate of the American Board of Dermatology and Syphilology.

THEY HAVE NINE CHILDREN

MRS. OLIVE LEWIS discusses on page 123 the qualities "The Wife of a Scientist" must have to create a favorable home atmosphere. Daughter of Charles James Thomas, once senior medical officer for the London County Council in charge of the school inspection service, and Winifred May Lewis, one of the first women to study science at the University of Wales, Mrs. Lewis was about to start studying for final exams at the London School of Medicine for Women when her cousin John Treharne Lewis of Buenos Aires arrived in London. Dr. Lewis had decided to "devote his life to the study of physiology, following the example of his teacher, Dr. Bernard A. Houssay," 1947 Nobel prize winner. Before he left London they were engaged and when he returned the following year they were married. In 1943 Drs. Lewis and Houssay were members of a group summarily dismissed from their university positions for signing a petition asking Peron to fulfill promises to call elections and declare war on the Axis powers.

Dr. Lewis is now a member of a private institute organized for research by Dr. Houssay with funds provided by Argentine philanthropists.

Mrs. Lewis is now helping her husband with the English translation of a textbook on physiology written by Dr. Houssay and his collaborators, amongst them being Dr. Lewis himself. She also teaches advanced courses in the English language and lectures on English literature for the Society for English Culture in Rosario in the province of Santa Fé and is writing articles for the scientific magazine *Ciencia y Investigacion* of which Dr. Lewis is one of the owners. Among other accomplishments of the Lewises they have nine children.

ORGANIZATION EXECUTIVE

Dr. CLYDE L. CUMMER, chief of the department of dermatology and syphilology at St. Vincent Charity Hospital, Cleveland, is past president of four medical organizations: Academy of Medicine of Cleveland, Cleveland Dermatological Society, Cleveland Medical Library Association and the Ohio State Medical Association. At the present he is president of the American Academy of Dermatology and Syphilology, a member of the council on Scientific Assembly of the American Medical Association and director of the American Academy of Dermatology and Syphilology. He is the author of a textbook on clinical laboratory methods and of numerous contributions to medical literature. After graduating from Western Reserve University, Dr. Cummer stayed on to teach clinical pathology and dermatology and syphilology.

OTOLOGIST

DR. SAMUEL J. KOPETZKY, author of "Nasal Nightmare," is a consulting ear, nose and throat specialist at Beth Israel Hospital, New York City, Newark Beth Israel Hospital, N. J., and Jamaica Hospital on Long Island. Since 1939 he has been professor of otology and director of the department at the New York Polyclinic Medical School and Hospital.

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When the nutritional state must be improved, as in frail children, in underweight adolescents and adults, and during convalescence after illness or surgery, Ovaltine presents important advantages as a supplement to the daily diet.

For Ovaltine, mixed with milk as directed, may well be called a "complete" dietary supplement. This delicious food drink provides ALL the nutrients considered essential for effective nutritional help, not merely a few isolated individual nutrients.

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PROTEIN	32.1 Gm.	VITAMIN B_1	1.16 mg.
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Information for Mothers

(*Continued from page 77*)

bination. In the school environment this is normally the boundary line. Beyond that, emotional blocks may arise. There is created a dislike for schools, and sometimes even complete defeat of the aims of education.

Immunize in Time

Question:—What is the best age at which a baby should be given shots against whooping cough? Is it safer to wait until after weaning?

Pennsylvania

Answer:—According to a discussion of this subject that appeared recently in the *Journal of the American Medical Association,* babies may catch whooping cough any time after birth. Death rate from this disease is highest in the first months of life. Because of this, it is considered wise to have the baby immunized no later than the third month. Another reason why early use of the vaccine is wise is because it takes about four months to develop immunity. There is no reason why nursing at the breast or bottle should be considered an excuse for not giving the vaccine.

Winter Clothing

Question:—What can I do to make my daughter wear more clothing when she goes out to play during the cold weather? She insists on wearing so little it makes me shiver.

Minnesota.

Answer:—Mothers often find it difficult to understand how children can survive when outdoors in inadequate appearing clothing. It is important that no extensive skin surface is left uncovered because of the danger of chapping or dryness. The average child, in playing outside, expends a great deal of energy and if the child is wearing too much clothing the exercise may result in excessive perspiration and chilling.

Avoidance of too much clothing permits free activity. Some children are so bundled up that one wonders how they can get any exercise. An important detail is to make sure that children remove some of the clothing when they come indoors to rest or perhaps have a hot drink. Unless this is done perspiration will again be produced. It has been frequently observed that parents fail to appreciate how active the body of an average child can be in heat production. Without doubt the much less active adult would shiver under similar amounts of clothing.

the Changing Picture of Disease

An Editorial by MORRIS FISHBEIN

MORE impressive than any other demonstration of the great progress made by medical science is a contrast between the causes of death in the United States in 1900 with those in 1947.

In 1900 tuberculosis was still captain of the men of death, and more than 200 people out of each 100,000 population died from tuberculosis every year. Today tuberculosis is seventh in the list of the causes of death, and the rate has dropped to 37.2. Now heart disease is first. No doubt the increased control developed by the use of streptomycin and other methods of treatment will lower the rate for tuberculosis still further during the next ten years.

In 1900 pneumonia was second, with a rate of 180.5. In 1947 pneumonia combined with influenza was sixth, and the rate is now 46.1. The control of pneumonia has been brought about by new developments in its treatment, utilizing penicillin and the sulfonamide drugs, and also by the application of oxygen and new drugs for controlling the heart. Moreover, we have learned much about the prevention of pneumonia, treating it as an infectious disease.

In 1900 diarrhea and inflammation of the intestines were third. The rate was 133.2. It is now far down on the list—possibly fifteenth—and the rate has changed to 14. Such conditions are controlled by widespread application of the laws of sanitation and hygiene, the provision of pure food, pure water and particularly pure milk. The almost universal pasteurization of milk in the United States has been a major factor in the control of diarrheal diseases.

In 1900 heart disease was fourth in the list of causes of death with a rate of 132.1 for each 100,000 population. Now heart disease has a rate of 306.6. This means that more people are living longer and that the heart eventually succumbs to the advance of age and the degeneration of tissues associated with increased years.

Almost fifty years ago diseases of early infancy and congenital malformations were responsible for many deaths of children before one year of age. The rate was 91.8. Today premature birth accounts for 29.1 per 100,000 population. This tremendous improvement has been brought about by scientific research and particularly by the establishment of scientific practice in the care of prematurely born infants.

Nephritis or inflammation of the kidneys was sixth in 1900 with a rate of 89. Now, as men live longer, nephritis has moved up to fifth place, but the rate is 58—far lower than it was in 1900. Great improvements have occurred in the care of inflammations of the kidney. Moreover, we have learned much about the prevention of such inflammations. Especially important has been the application to infections of the kidney of new drugs, such as the sulfonamides, penicillin, streptomycin and mandelic acid.

The seventh classification in 1900 was unknown and ill defined diseases. The rate was 73.8. The classification has dropped out of the first ten entirely and now is credited with a rate of 15.

Eighth in the list in 1900 was hemorrhage of the brain. Here again is an example of the effects of increasing age and the degenerations of the tissues that come with such prolongation of life. Today cerebral hemorrhage is third on the list of causes of death, and the rate is 90.5. With brain hemorrhage we associate hardening of the arteries and the breakdown of tissue.

Ninth in 1900 was accidents, with a rate of 65.4. In 1947 accidents moved up to fourth place with a rate of 71.2, and motor vehicle accidents accounted for 24.1 of this enormous figure. The motor car was just beginning to come on the scene in 1900; today we have a motor vehicle civilization. Society needs to develop new and better controls over this hazard than those that now prevail.

Tenth in 1900 was cancer, with a rate of 65 deaths for every 100,000 population. Today cancer is second in the list of causes of death. The rate has moved up to 130, and cancer accounts for 180,000 deaths every year. Physicians are convinced that possibly one half and at least one third of these deaths could be prevented if people were aware of the fact that cancer diagnosed early is controllable by the use of surgery, x-ray or radium.

While the figures cited are cause for great congratulation and indicate the high status of medical care and public health practice in the United States, they should not be taken as an authority to relax our battle against the diseases that threaten the life of man. Research and the application of research in medical practice will yield answers to problems that today seem incapable of solution. The enactment of the act for establishing a National Science Foundation, which will encourage medical research along with research in the basic sciences, will give new weapons and new powers to the hundreds of thousands of scientists who are our soldiers in the battle against disease.

by WALTER MODELL

Not tuberculosis, or cancer, or infantile paralysis, but heart disease is the most important single cause of death; heart disease and closely allied diseases of the arteries cause more deaths than all other forms of disease put together; in children as well as in adults, heart disease stands foremost.

It is natural that people should be concerned when they learn of this. They ask, "What is happening? Why do we hear so much more of heart disease today? Of heart attacks? Is something happening to our hearts?"

We have more heart disease today because our health is improving. It is paradoxical that we should be asked to find comfort in the statement that more people than ever are dying of heart disease, but it is, nevertheless, a comforting fact to the physican. He knows that, because of the dramatic reduction in deaths caused by infectious diseases, people are, in general, living much longer. Hardening of the arteries or arteriosclerosis, the most frequent cause of heart disease, comes to more people today because it eventually comes to all who live long enough. The only ones who escape are those who die too soon of something else. It is important to bear in mind in connection with a growing consciousness of heart disease that one's personal experience with it is certain to increase as one becomes older, because parents, relatives and friends are also becoming older; more and more personal contacts are reaching the arteriosclerotic or heart disease age. Although more people are getting it, hearts have really remained just as sturdy as ever.

This view of heart disease is at once optimistic as well as an admission that heart disease is a public problem of mounting concern. Knowledge about it is becoming more important to the layman. The various types may be classified according to the nature of their origin. A small proportion of children are born with defective hearts. This is known as congenital heart disease. The reason for this affliction of the newborn is not known. It does not tend to run in families and, in that sense, is not inherited or transmissable. It is not generally attributable to any disease the mother may have had nor to prenatal influences, such as "frights," which make up the substance of many old wives' tales.

Rheumatic fever causes the largest proportion of heart disease in youngsters and young adults and causes more deaths in that age group than any other disease. Rheumatic fever is an infection, but the germ which causes it has not yet been identified. The disease has many manifestations, but usually it is marked by painful, swollen joints. The joint pain, which is often excruciating, at first attracts all the attention. Unfortunately the heart, which is often affected at the same time, only later achieves notice. It is here that the valves of the heart are often damaged, causing what is commonly called "leaky valves." Rheumatic fever is clearly a climatic disease, of the temperate zone, generally found where the weather is damp and unsettled. While it also occurs in warm, dry, even climates, first attacks are rare there.

In older people heart disease commonly comes as a result of hardening of the arteries. We know of nothing but age which causes this condition. There are many different ways in which the heart may become involved as a result of arteriosclerosis.

High blood pressure is another cause, the nature of which is not understood. It also usually comes late in life, although its most serious form may attack very young adults. In this disease, the undue effort to which the heart is subjected in pumping against the increased blood pressure eventually damages it.

Syphilis is an infection which hits the heart and which, with more widespread information and more extensive early treatment, is becoming decreasingly important. Goiter is also slowly disappearing as a cause of heart disease because of early recognition and excellent modern treatment. Other causes are unimportant.

The public should realize that not all heart disease threatens life, that it varies in seriousness as well as in kind, and that, in each variety, there are all degrees of significance. In its mildest forms, heart disease, if it is not progressive, need not influence life or activities at all. In its most serious forms, it is completely incapacitating.

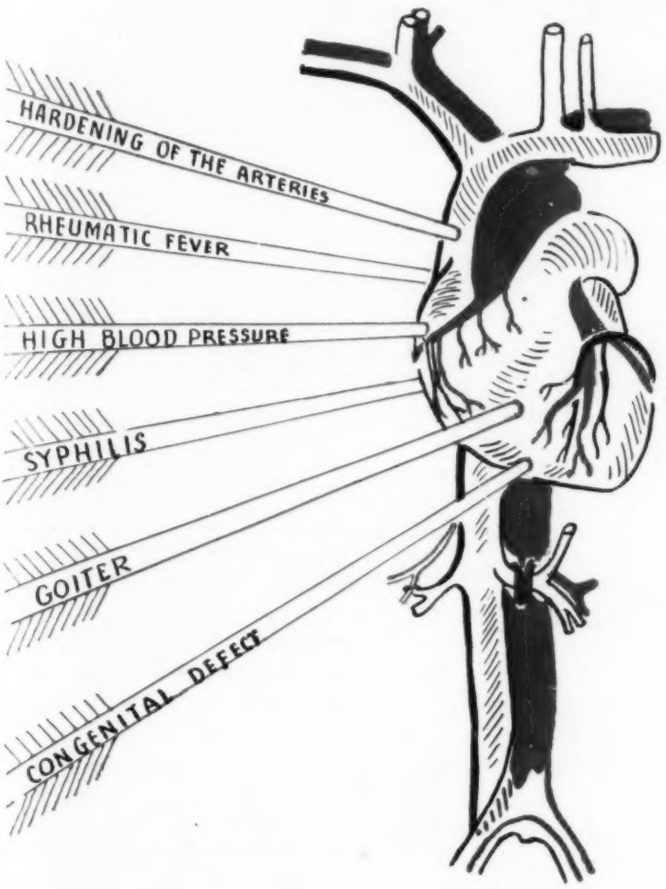
Heart disease varies also in the rate at which it progresses. There are all gradations between two extremes: a slowly advancing form which makes hardly noticeable progress over periods of twenty years or more, and a form which kills in a sudden attack, at the moment it becomes manifest.

Prevention, wherever possible, is obviously the most important measure in the control of any disease. The known causes of heart disease such as syphilis and goiter should be treated promptly when discovered. Rheumatic fever presents special problems since neither its cause nor the nature of its contagiousness is known. Nor is there, in spite of the sulfa drugs, penicillin and streptomycin, a specific remedy for the infection at any stage of the active disease. Rheumatic fever is, however, a disease which strikes far more frequently at the poor. The removal of slums and the correction of overcrowding, poor clothing, and malnutrition would go far in retarding the spread of this disease. We know of nothing to prevent congenital heart malformations, arteriosclerotic heart disease, or high blood pressure. Recent widely publicized theories concerning the cause of arteriosclerosis and high blood pressure have not been substantiated and, until more is known about the causes of these conditions, we can do little to prevent them.

In all forms of heart disease subsequent attacks are to be avoided if possible, and this is possible in many instances. There is evidence that recurrences of rheumatic fever may be prevented in many cases by avoiding colds and sore throats. Removal to a more equable climate, such as that of the desert region of Arizona, may forestall further attacks. Many believe that in selected cases recently discovered drugs, used judiciously under the supervision of a physician, may also prevent recurrences. These drugs, however, are of no value in the treat-

ment of rheumatic fever once it has developed.

Undue excitement, strenuous or sudden exertion and any unusual effort are to be avoided in any form of heart disease. Sufficient rest and adequate sleep are essential. In some cases, dietary restrictions may be necessary, but these are to be imposed only by the physician. They should be followed exactly as ordered. The modern diet for the patient with heart disease bears little resemblance to the popular notion of what is harmful for the heart and kidneys, or for the person with high blood pressure. For



STRAIGHT FACTS ABOUT HEART DISEASE

those requiring no special diet—and this includes most of those with heart disease—only overeating, with its consequent obesity, is forbidden. Drinking to excess may be dangerous, although an occasional drink may produce valuable relaxation. Smoking, to excess is harmful, and in some types of heart disease the physician may restrict tobacco. In general, all those with heart disease, no matter the type, should avoid exposure to infection. Teeth should be well cared for so that abscesses do not develop and extractions are not required.

Once the heart has been damaged, it is not possible to cure the heart disease without leaving some scar, although this scar may often be inconsequential. Treatment in heart disease, therefore, is aimed first of all at the prevention of heart damage; second, once damage has occurred, at the production of the smallest possible scar, third, at the relief of symptoms resulting from the damage to the heart; and finally, at the prevention of further attacks.

Treatment of heart disease has advanced immeasurably in recent years. Yet much remains to be done. For rheumatic fever infection we have nothing except rest and expert nursing care for the acute and convalescent stages. We have not yet found a good drug for the treatment of high blood pressure, but there is reason to be hopeful, for the beginnings of an understanding of this condition have been made. We have nothing for hardened arteries. There is a cure for syphilis, but unfortunately, if this is delayed until the heart has become involved, the syphilis may be eradicated but the heart disease will remain.

There is one rather uncommon heart infection, subacute bacterial endocarditis, (and there is no easier name for it) for which a cure has recently been discovered. This infection always attaches itself to a portion of the heart damaged by previous heart disease. Until several years ago everyone who developed this disease died of it. Today, with huge doses of penicillin, 90 per cent or more are entirely cured. Cures may be on the way for other heart infections.

The later consequences of heart disease, often called heart failure, are more effectively treated today than ever before. With the proper use of purified extracts of digitalis and a newer group of drugs called mercurial diuretics, many victims of advanced heart failure, formerly considered beyond treatment, are now entirely relieved of symptoms. Even though the fundamental disease condition remains severe, lives are prolonged, and made useful and pleasant, where formerly they were unbearable. Many such patients have returned to work.

And today surgery has entered the field of heart disease. Many serious con- (*Continued on page* 133)

How Well Do We Feed Our Children?

by THOMAS C. DESMOND

SHORT, chunky Dr. Otto A. Bessey and tall, youthful Dr. Oliver H. Lowry, have become two of the best friends your children have. The names are probably unfamiliar, but the pioneering nutritional tests developed by these scientists may soon be as well known as simple vaccination.

Unless it were used in contrast, the picture of your chubby, rosy-cheeked youngster would never do as an appeal to help the starving, homeless orphans in other parts of the world. The usual illustration is a small face gnawed by hunger, with hollow eyes which at the same time seem to plead and accuse. Yet your husky child who looks like a potential all-American athlete may not be nearly as healthy as you think he is.

The experience of Mrs. Ferguson, an excellent housewife and mother, provides a concrete example. She was greatly surprised when asked to see the school physician about her 10-year-old daughter. Mary looked perfectly healthy and she could keep up with all the other children in the neighborhood. But Mary's teachers said that she was inclined to be listless and inattentive and they felt that something was retarding her progress. Mrs. Ferguson's surprise grew to anger when the school physician dared to suggest that probably Mary was not receiving proper meals at home.

"Why, that doesn't make sense," snapped Mrs. Ferguson. "My husband earns twice as much as he did seven years ago, and my grocery bill is the highest it's ever been. Mary gets everything she wants."

"Yes," the physician said patiently, "but getting everything she wants doesn't mean that your daughter is getting everything she needs. The fact that you're spending more money than ever doesn't prove that you're spending it more wisely. With careful buying and planning you can feed your family better and cut down on your expenses at the same time."

Mrs. Ferguson was fortunate, although she may not have at first appreciated the advice she received. Throughout the nation, in the midst of plenty, millions of children like Mary are suffering from undernourishment or malnourishment.

Some nutritional deficiencies may be discovered by studying children's family background or their eating habits. Some may be detected through stunted growth, abnormal weight, poor posture or poor bones and teeth. Others may come to light through vague symptoms like those of Mary Ferguson.

In everyone of these methods of discovering deficiencies, however, there is a great element of chance, guesswork and individual subjectivity; and there is danger that the deficiency will be found after it is too late to repair the damage already wrought.

How can nutritional status be adequately determined? How can large-scale nutritional tests be made to detect specific deficiencies of essential food factors accurately and easily? These questions disturbed and puzzled scientists for a long time. Their perseverance in seeking the answers has borne fruit. Microchemical tests—the quantitative analysis of minute quantities of blood by chemical methods—now hold out the hope that every mother will soon be able to know not only how well her children are fed, but exactly what they need for the best nutrition.

The new technics were developed over a period of four years by Dr. Otto A. Bessey, chief of the division of nutrition and physiology, and Dr. Oliver H. Lowry, his associate, at the Public Health Research Institute of the City of New York.

The Institute itself is a unique organization. In 1945 its president, David M. Hayman, said: "Its founders, city officials, public-spirited laymen and prominent scientists, not only showed their early recognition of the growing importance of research to the health of our citizens, but their understanding of the conditions which must be provided for productive research. Furthermore, the City of New York became a leader in acknowledging the responsibility of government in the support of scientific research in relation to public health." An efficient, flexible program of research on problems of public health importance was conducive to the pioneering efforts of Drs. Bessey and Lowry.

These two scientists were not the first to dis-

cover methods of testing for nutrients by blood analysis. The principle was known for many years, but it had previously consisted of the cumbersome and unpleasant process of drawing off a relatively large quantity of blood through a needle puncture of the vein. The time consumed in collecting the blood specimens, and the natural reluctance of the patients to submit to the ordeal greatly limited the field of operation.

The contributions of Drs. Bessey and Lowry in nutritional testing have been efficiency, speed, comfort and convenience. A simple prick of the finger produces the one or two drops of blood needed as a specimen. The blood sample can be taken, placed in a capsule and labeled in a matter of two or three minutes. No candy is necessary to keep the child from crying and he will cheerfully cooperate in this simple, easy procedure as often as necessary.

Surveys already made in New York City schools indicate that a large number of children are receiving a level of nourishment considerably below that accepted as adequate for proper growth, development and general health. Other tests made by Dr. Norman Jolliffe in the nutrition clinic of the Department of Health have shown that many school children have clinical signs usually attributed to malnourishment. New York City hospitals are using the new tests in connection with diagnosis and care of hospitalized patients and for studies of nutrition as related to disease and convalescence.

Although the details and results are still confidential, it is known that early in 1945 the Office of the Surgeon General of the Army requested assistance in the developments of methods for evaluating the nutritional conditions of soldiers in the field. While a number of methods were useful for this purpose, most of them required equipment and facilities that could not be made readily available in many areas of military operation.

The recently developed microchemical tests were first used on a statewide basis in this country late last year when, by agreement with the New York State Joint Legislative Committee on Nutrition, Dr. Bessey and his staff conducted a nutritional assay of 750 children in five upstate communities and 450 children in three New York City schools. In less than one day at each school, Dr. Bessey and two technical assistants took blood samples from 150 children in the seventh to tenth grades. The blood specimens were shipped by air to the laboratory of the Public Health Research Institute to be analyzed for the vitamins, hemoglobin, serum protein and other nutrition "indicators."

Microchemical analysis revealed that in the eight schools where tests were made, 48.1 per cent of the children got less carotene and 53.9 per cent got less ascorbic acid or vitamin C than is recommended by the National Research Council as necessary for good health. The tests revealed that upstate New York school children, although closer to farms than their big city cousins, are not as well off nutritionally as New York City pupils.

The sampling showed that not a single group of the children tested was free from some deficiency. Upstate, 53.2 per cent of the children—in the city, 43 per cent—failed to get an adequate rating in carotine. In ascorbic acid, 59 per cent upstate and 48.9 in New York City fell below an adequate rating. Since both of these food essentials are found in fresh fruits and green and yellow vegetables, the tests showed that parents are not supplying enough of such foods to their children.

Future report cards may show a grade in nutrition—and that mark will be most significant.

Nutritional deficiences were also detected in the riboflavin and hemoglobin tests. Upstate, 45.2 per cent of the school children sampled were below the recommended standards in one or the other of these important indices of nutritional status, compared to 39.8 per cent of the New York City pupils.

Most heartening was the response of children, parents, school health authorities and school administrative officials. Naturally, they made many inquires about this new development in science which up to the time of our experimental assay had been relatively untried. In the following questions and the answers we gave lies the clue to the future of mass nutritional tests:

A principal asked: "How will our school benefit from this nutritional survey?"

"Your school will benefit both directly and indirectly. By receiving a report on the representative sample of 150 children tested you will be able to gauge the nutritional health of all the children in your school. You may uncover individual cases of malnourishment which require immediate attention. You can tell the parents what is lacking in the diets of their children, and how the diets can be improved. If you have a school lunch (*Continued on page* 132)

The Bronchoscope and Animal Experimentation

by VIRGIL H. MOON

A CHARACTERISTIC trait of children is to investigate things by putting them into their mouths, sometimes with disastrous results. A button, safety pin, coin, pebble, tack, seed, popcorn, peanut, cherry pit or other small object may be sucked from the mouth into the throat of the child. If not removed it causes prolonged illness which may be fatal.

Dr. Chevalier Jackson spent years in developing an instrument, and the skill to use it, by which such objects can be removed safely. The bronchoscope, shown at upper left on the opposite page, is a long tube which serves the purpose of a periscope.

It is fitted with lights and specially devised mirrors, forceps, knives, scissors, probes, suction tubes and other accessories; these are used under the direct view of the operator. This tube is inserted in the mouth and thrust past the opening of the gullet, through the larynx or voice box between the vocal cords, and through the entire length of the windpipe to, or often into, the main right and left bronchi which lead to the lungs. The use of such equipment is complicated; it requires great delicacy of touch and a skill which can be obtained only by practice. Dogs are used in perfecting these instruments and in practicing their use because dogs have throats almost like those of children.

For four years Bozo has been used for this practice in Dr. Clerf's Bronchoscopic Clinic in Jefferson Medical College. He is healthy and well cared for and has never been subjected to pain or abuse of any kind. A number of specialists have acquired skill by using the bronchoscope on him. Dogs are always completely anesthetized in such work, although the bronchoscope is often used on human beings without anesthesia. It is not possible to estimate how many lives have been and will be saved, in part by Bozo's help.

In the College of Physicians of Philadelphia is a collection of 3,557 objects removed from human throats and lungs in Dr. Jackson's Bronchoscopic Clinic. As of last June 7,070 foreign objects had been removed from human throats in the bronchoscopic clinics of Philadelphia alone. A great many of these patients would have died had the bronchoscope not been used.

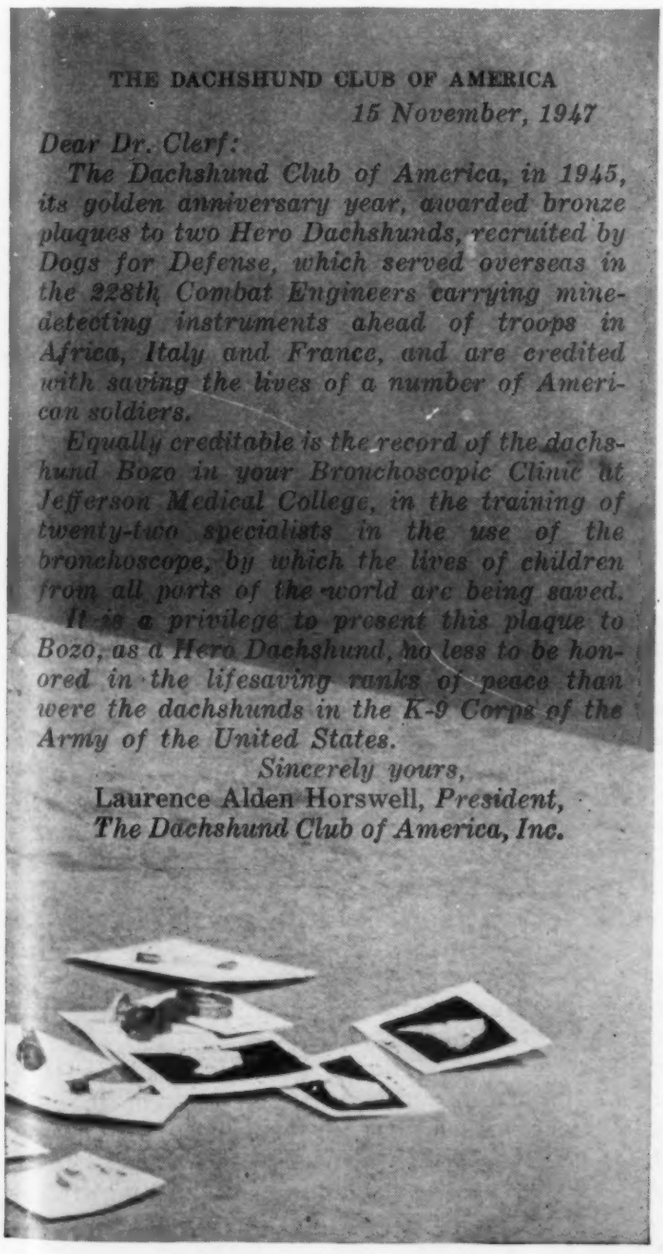
Dr. Jackson taught bronchoscopic technic and established clinics in other countries in order that many people might benefit by this new development. At present a skilled bronchoscopist can be found in each of many large cities in this country and in Europe. The British were deprived of these benefits because their antivivisection laws do not permit this use of animals. These restrictions are such that many problems of disease cannot be investigated in England. Such problems must either go unsolved or the investigators must go abroad to conduct their researches. These circumstances have seriously retarded scientific progress in England.

Dr. Jackson once asked an antivivisectionist this hypothetic question: "Suppose that your child had a safety pin in his bronchus and there were available only two physicians who, though otherwise equally qualified, differed in this particular: one had never looked through a bronchoscope; the other had received thorough training in the use of this instrument, including numerous removals of safety pins from the living, moving bronchi of dogs. Under these conditions, which physician would you choose?"

The reply was, "But my child does not happen to have a safety pin in his bronchus. One should not assume conditions which do not exist."

Cancer of the lung is a highly important form of tumor which causes about 10 per cent of all deaths due to cancer. In past years this disease was fatal in almost every case. Recently the use of the bronchoscope for making the early diagnosis of lung cancer, and prompt surgical removal of a lobe or of the whole lung, have saved many lives. Both the bronchoscopic skill and the surgical technic for this were acquired through experiments on dogs.

Antivivisectionists are striving vigorously to limit the medical use of animals in this country. Should they ever succeed, our physicians, like their British colleagues, would have to migrate to some foreign country in order to (*Continued on page* 142)



THE DACHSHUND CLUB OF AMERICA

15 November, 1947

Dear Dr. Clerf:

The Dachshund Club of America, in 1945, its golden anniversary year, awarded bronze plaques to two Hero Dachshunds, recruited by Dogs for Defense, which served overseas in the 228th Combat Engineers carrying mine-detecting instruments ahead of troops in Africa, Italy and France, and are credited with saving the lives of a number of American soldiers.

Equally creditable is the record of the dachshund Bozo in your Bronchoscopic Clinic at Jefferson Medical College, in the training of twenty-two specialists in the use of the bronchoscope, by which the lives of children from all parts of the world are being saved.

It is a privilege to present this plaque to Bozo, as a Hero Dachshund, no less to be honored in the lifesaving ranks of peace than were the dachshunds in the K-9 Corps of the Army of the United States.

Sincerely yours,

Laurence Alden Horswell, *President,*
The Dachshund Club of America, Inc.

ASTHMA

A Problem in Prevention

Part I

by ALENE S. and ROBERT P. LITTLE

"IT'S about Billy, doctor. He seems perfectly well otherwise, but he's been wheezing lately. The other night he could hardly get his breath for almost fifteen minutes. . . . Yes, he did have a cold in the fall, quite a heavy chest cold, and he still coughs. This may be nothing, I know, but I'm worried."

The doctor did not think it "nothing." His skilful questioning brought out a number of facts that Mrs. Martin thought quite irrelevant, little family idiosyncrasies that it had never occurred to her mention. The fact that Aunt Martha and Great-Uncle Wilcox were "perfect martyrs" to hay fever; that Grandmother Martin couldn't stand a cat in the house because it made her ill; that Billy's father went into fits of sneezing when she cleaned house; that Billy had had eczema as a baby . . .

The doctor wrote a careful history. "Bring Billy in," he said finally. "I want to give him a thorough examination. The important thing is to treat his asthma before it gets firmly established."

"Asthma!" Mrs. Martin gasped. "Oh, doctor, my father died of cardiac asthma. Do you think there's anything the matter with Billy's heart?"

"I doubt it. You see, what Billy has is bronchial asthma."

It was hard to convince her that Billy's heart was probably as good as ever and that there was no connection between his wheezing and "cardiac asthma," the breathlessness, erroneously called asthma, that sometimes accompanies heart disease.

In the discussion that followed, Mrs. Martin learned a number of things. She learned that asthma is not of itself a disease but rather a group of symptoms, just as a cough is a symptom, and may arise from a variety of causes. Bronchial asthma may be divided into two broad classes: extrinsic (allergic) and intrinsic (nonallergic). A person with extrinsic asthma is sensitive to something inhaled or to some food; in intrinsic asthma the source of the trouble seems to lie within the body. An infection, for instance, may be the cause of intrinsic asthma.

In children asthma is usually allergic in type and is often caused by foods. Common offenders are eggs, wheat and milk. Inhalants may also be important. It has been observed that the younger the child at the onset the more favorable the probable outcome. Another encouraging factor is the tendency for food sensitivities to disappear when the child reaches puberty; but inasmuch as intrinsic asthma, which is far more difficult to cope with, may develop from the allergic type, the cause of Billy's asthma should be determined now, if possible. A few skin tests and an elimination diet would help unmask the culprit.

"Asthma is not contagious, any more than hay fever," the doctor assured Mrs. Martin. "The background of Billy's trouble lies in his family history; the tendency to develop hypersenitiveness is inherited. To put it another way, if a child with an inherited susceptibility comes in contact with an exciting allergen or contracts a respiratory infection, such as bronchitis, whooping cough or pneumonia, he may develop asthma. And asthma," he added, "is nothing to be trifled with."

All considered, Mrs. Matrin had a good deal to think about as she drove home. Most of all she wondered why she'd ever taken the family allergies so lightly.

The recognition of heredity as a factor in asthma, perhaps the most important step forward in the long history of the disease, is a comparatively recent development. In 1859, Dr. Henry Hyde Salter wrote in his classic treatise on the disease: "Not only is asthma . . . comparatively common and superlatively distressing, but it is peculiarly and proverbially intractable. The asthmatic is generally looked upon as an asthmatic for life." Today much can be and should be done in the way of prevention. Nevertheless, asthma is still a serious and relatively common disorder. Medical authorities estimate that some 2 per cent of the inhabitants of the United States are asthmatic. The white race seems to be most susceptible; asthma is infrequent in the black and yellow races and rare among the American Indians and Eskimos.

The disease is divided about equally between the sexes, though slightly commoner among men than women. While it may occur at any age, it generally begins in childhood or early maturity. About one-third of all cases appear in children of 10 and under, about one-half in persons between 10 and 50. Only 1 per cent of all cases start after the age of 60. All considered, asthma is wonderfully democratic, for it accepts all candidates irrespective of age, sex or constitution, and the wealthy and privileged are as eligible as the poor. Anyone who has seen an asthmatic during a severe attack will remember the characteristic pose. The subjects sits doubled over, head down, back rounded, so that every important muscle may be brought to bear upon the immense task of respiration. In chronic cases chest deformities often result from the excessive labor of forcing air out of the lungs.

Exactly what happens during an attack? Anatomically speaking, the (*Continued on page* 128)

Those Unconscious Slips

by JAMES A. BRUSSEL

THE PRESIDENT of a Western lumber concern was unable to fill orders because of a railroad strike. To more than a hundred customers on the Atlantic coast he dictated a form letter, instructing his secretary to prepare the required number of copies for his signature. After pounding out a dozen or so of these stereotyped letters the young lady had committed the message to memory and needed to consult her notes only for names and addresses. Gradually the task became automatic. Her employer, after reading the first letter, dashed off his signature on the rest without further perusal. One of the recipients was more than surprised to read: "Dear Mr. ——: Future shipments of lumber will be detained indefinitely because Helen is a cheap streetwalker who is using her body to win George away from me." Naturally the customer wrote back that this was a most unbusinesslike if not a delicate and personal reason for failure to fill orders. When the irate lumberman confronted his secretary with the ludicrous communication she quakingly denied responsibility. She tearfully vowed she did not remember writing such words and became indignant that her employer thought her capable of such vile thoughts.

When a "boner" bares a hidden thought it may be embarrassing, but it is by no means always tragic.

Psychiatrists tell us that the young lady was completely truthful. Her trouble was a failure to repress a previously experienced emotional shock. Her ego, to use strict scientific parlance, had at first shoved this mental injury into the unconscious depths of her mind and then, in an unguarded moment, had allowed it full, overt, conscious expression thereby relieving the mind of an unpleasant burden.

Alienists concur in the belief that none of us ever forgets any experience; it is simply relegated to the unconscious—we say "forgotten"—where it remains, sometimes for decades, alive, vibrant and perfectly capable of emerging into consciousness when some external stimulus serves as a parallel mechanism of arousing this repressed material. No one "remembers" the trying days of infancy when Mother was religiously training Baby in toilet and eating habits. Those hours of initial frustration are not forgotten; they have been shoved back into the unconscious because they were disagreeable and unacceptable to the ego. Years later the adult, suddenly confronted with, let us say, financial disaster through the trickery of a *dirty, worthless* scoundrel, now experiences a similar threat to his security as he did when he was 6 months old! Interim training and experience have taught his mind that society would never tolerate the infantile reactions of the toddler. Yet his mental conflict must find relief and release of tension. So he sublimates his inner strivings and impulses in a way that satisfies his unconscious drives while simultaneously finding outward but socially acceptable expression. He develops a gastric ulcer or some other affliction of the bowels.

The young woman with a broken love affair may go to her physician with palpitation and giddiness or other, to her, alarming symptoms; or, like the bungling secretary, when mental barriers are down she may find overt expression of her inner difficulties via slips of the tongue or pen . . . the typewriter falling into the latter category. Sigmund Freud wrote extensively on this subject. He showed that these unconscious errors may be easy to account for, but all too often the original cause is elusive and challenging, calling for extensive analysis and intensive probing for past details which, though inconsequential to the patient, may furnish the final clue.

Some of these slips are extremely amusing. A. A. Brill, the American exponent of Freud, tells of a classic slip. A group of people were gathered at the home of a couple for a social evening. The hostess was well known for her sparse and skimpy midnight collations. While the refreshments, such as they were, were being served two of the guests were arguing politics. "I tell you," one of them shouted vehemently as a meager tray was passing, "what we need is not a New Deal but a Square Meal!"

A young wife received a letter from a school chum asking if she would be free on a certain Saturday for a sorority get-together. How deeply she adored her mother-in-law can be gathered from her reply. She meant to write back: "I'd love to join you but I cannot. My husband's (*Continued on page* 130)

PRESCRIPTION FOR PLAY

by FRED V. HEIN

Good physical education in school lays a foundation for happy, healthful adult recreation.

JOE WALSTAD, a neighbor of mine, helped me carry a log to the alley back of our house a few days ago. It was quite a haul and when we got the job done, he said: "You know, I didn't like to refuse, but I shouldn't be doing this sort of thing; feel how my heart is beating. My doctor and the specialist say I'm O.K. and I've had every sort of test but I get all out of breath and my heart beats like a triphammer when I exercise."

Now Joe certainly shouldn't be playing football at his age. In fact, he is obviously out of condition for even moderate exercise. On the other hand, if through fear of overdoing he hadn't excessively limited his exercise for years by reason of superficial fatigue and slight breathing distress, he might have developed an entirely different type of personality. Joe's phobia against physical activity is just as unwholesome as overindulgence in exercise.

During school days he should have learned that speeded-up breathing, increased heart rate and other reactions associated with activity are the ordinary results of exercise. The normal heart and circulatory system become stronger and better able to move blood to various parts of the body when repeatedly called upon to do so. On the other hand, continued inactivity brings about changes of the opposite kind. In the same way muscles are strengthened through exercise or weakened through disuse.

Teachers of physical education in modern schools not only teach skills in many activities but also help children to understand the effects of exercise on the body. The pupil learns the value of exercise, how much activity to engage in and when it is desirable. He is taught the need for a balance between exercise and rest and the proper place of activity in daily living.

There is a group of business men in our town who play volleyball together at the Elks Club a couple of times a week. The other day they gave the intramural champions from the neighboring college the surprise of their lives. They handed the youngsters a terrific beating and "spiked" them to death. Play was marked by a great deal of enthusiastic yelling and good natured kidding. But above all there was a joyous absorption in the game. The adult who seeks and enjoys physical recreation of this kind has come to know the sense of achievement that can result from reasonable sports success. He has been shown the way to find self-expression and relief from the ever-increasing strains and tensions of modern life in physical activity.

Now these things do not just happen. They come about when youth has been skilfully guided toward an appreciation of physical activity and its values in mental hygiene. Such attitudes can result when physical education has the place it deserves in the school curriculum. The important thing is that people learn to lose themselves in wholesome physical recreation. Only then can one really come to know the relaxation and release that can result.

Once in a while I get a chance to play a few games of badminton in a gymnasium near our office. Some of the showers that are taken and many of the health habits that one sees there are a mere concession to the rules that prevail. School playgrounds, gymnasiums, swimming pools and shower rooms all provide laboratories where good health habits can be formed. The grownup who feels no need to bathe after exercise, who expectorates into the pool while swimming or in other ways disregards his own health and the health of others has missed some of the things that a well-rounded physical education program might have provided.

Children can be led to assume more and more responsibility for their own health and that of their friends as they grow older. But hygienic surroundings, a chance to practice healthful living and, most important, careful guidance, are necessary. The impelling activities of the gymnasium and playfield may have a strong influence in the right direction when wisely used.

Tom Egan is the unluckiest fellow in our block. Last winter when he put up his storm windows he fell off the ladder and was laid up for days. During the summer, in getting off the train he caught his arm on the hand rail and nearly broke his wrist. Just a few days ago he slipped on the ice and got a bad sprain. Tom is a swell fellow whom everyone likes but he is without doubt the most awkward person I have ever known. One of these picture "time-studies" of him trying to do a simple physical movement would be a complete jumble. He was a country boy who had little chance to take part in sports and recreation. In fact Tom told me once the only game he'd ever played was a little baseball.

Experience as youngsters in many types of physical activity helps in gaining safe, effective use of the body. This is one reason for including a wide variety of skills in the physical education program. Efforts along this line have real importance when one considers the terrific toll that accidents and injuries exact every year.

In the national championship professional basketball game last spring, two of the players lost control for a minute and it appeared for a time as if a fight might develop. The situation on the floor was quickly righted by an alert official and the restraint

that the players had developed over a period of years. But the reactions of the spectators were quite different. One fellow sitting near me started wading through the crowd on the bleachers to get to the center of things. Catcalls sounded out all over the place and the indications were that the high point of the evening had been reached for a great many in the crowd.

The adult who allows emotion to overcome good judgment and winds up in the midst of a fracas at a ball game may have had too few opportunities for practice of desirable player and spectator behavior in his school days. Students should have a chance to take part in sports both as observers and participants. The development of self-control, cooperative-

Courtesy of the Union Pacific

ness and similar qualities needs to be given definite emphasis. This is as much a part of the learning that goes on as acquiring the ability to kick the winning field goal or to shoot the basket that puts the home team ahead.

At a school I visited last year a class of handicapped children were getting a limited type of physical education which was really splendid. They started out with individual exercises prescribed for each pupil by a physician. The class was small so that the instructor could provide close supervision. After a time they played a modified type of softball. When Bruce, obviously a victim of some crippling disease, was up to bat the pitcher rolled the ball instead of throwing it in the regular way. Bruce hit well and succeeded in reaching first. Later on he scored and the expression on his face was really something to see.

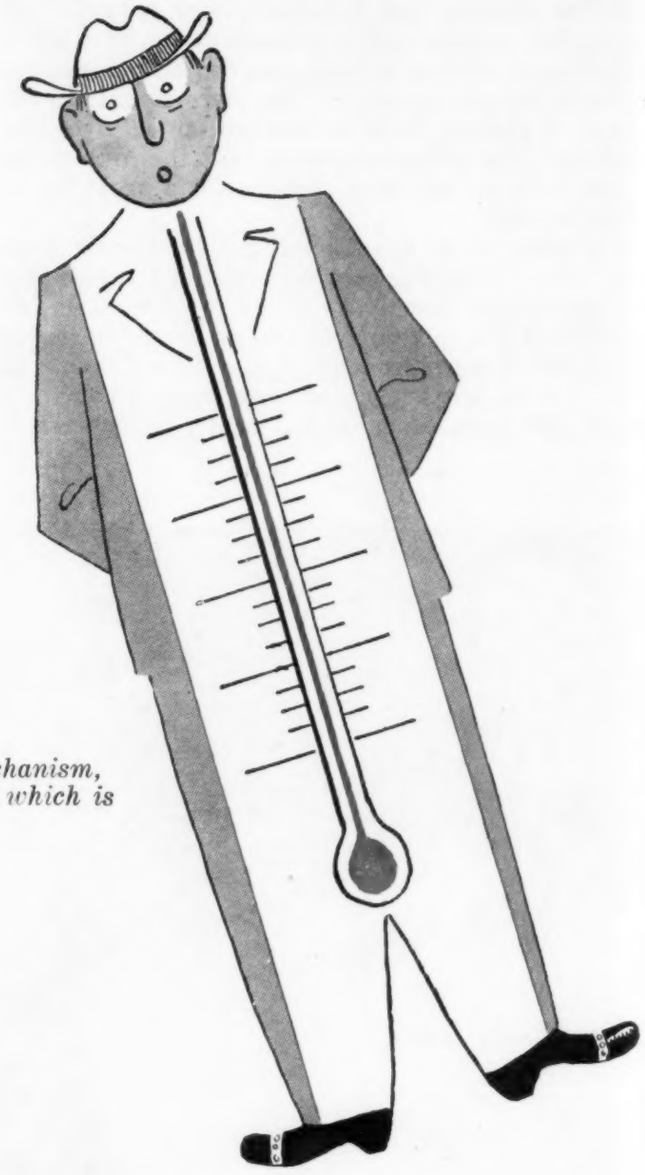
Mike, a fine looking lad with one crippled arm, proved himself a champion at dart ball. The group managed to play a good game of volleyball in a sitting position with the net lowered accordingly. On another day, I went back to see one of their swimming periods. It was difficult to believe they were the same children because of their ability to handle themselves in the water. The relative ease of movement they found was reflected in their happy faces.

The outcome of such a program in physical, social and mental health can only be estimated. The small satisfactions gained are as vital to the lives of such children as the touchdown run to the star athlete. In cooperation with the physician, the physical educator can do a job here of real value. The person who goes through life with a limiting defect which might have responded to the right kind of exercise or the handicapped adult who has failed to make adjustments in physical recreation points to the need for this cooperative relationship.

Bob Terman is one of those fellows who have always dodged sports because they do so poorly at them. He hated physical education, since his attempts to do any of the things required were a source of embarrassment and brought forth the derision of his friends. Now he is in his forties and has completely gone to seed. He takes less exercise than ever and adopts an attitude of ridicule toward fitness, physical activity and muscles. Bob never acquired any play or hobby skills, because he never had a sympathetic teacher to help him develop at least a minimum of recreational skill. Of course, he didn't give himself or his teachers much of a chance, either.

Children need experience past the novice stage in many sports and games. There should be an opportunity to take part in individual and dual sports like swimming, archery, skating, golf and tennis. There is no reason why the program of team games cannot include activities like softball and volleyball as well as football, basketball and (*Continued on page* 134)

by LESTER HOLLANDER



THE longitudinal central third of the face constitutes the so-called flush area. It is richly laden with superficial small calibered blood vessels, placed close to the outer skin surface and it is also the principal site of the indirect reflex vasomotor reactions which occur in response to psychic or somatic stimuli.

The pinched pallor of fright, the uncoordinating heat of anger, the sharp acuity of anxiety, the warmth emanated from the oncoming blush, the deep hue of the flush of shame, the congestive cyanotic purple which follows overindulgence in food, but especially intoxicating drink,

all are examples of this so-called flush mechanism, a peculiarly human barometric apparatus, which is hard to keep under voluntary control.

These phenomena depend on an intimate relationship of a special set of sympathetic nerve fibers and the fine-calibered cutaneous blood vessels of the flush area of the face.

It is accepted as an axiom that particular function and peculiarly adapted anatomic construction comprise the foundation for the appearance of characteristic symptoms when some disturbance or interference brings about over or under activity of the normal processes. Abnormal expressions are symptoms of disease.

The flush area furnishes a livid example of just such a happening. For occasionally there appears a disfiguring disease of the skin of the face, which depends on the exaggeration of the normal act of blushing—blushing which takes on a persistent character rather than acting as a periodic and emotion-triggered dilation of the superficial blood vessels. A more or less permanent or lasting blush opens the door for other changes and the eventual creation of a group of symptoms which constitute a disease of the skin called rosacea. I, myself, like to refer to it as the middle age glow or the adult blush, a term not nearly as decorous as rosacea, but as a matter of fact, neither is the disease the envy of those seeking pleasing appearance.

An easily evoked or a chronically persistent redness (the doctors call it an erythema) of the flush area is usually the heralding sign of rosacea.

It may occur at any age from early adult life to early senescence, but the age of greatest incidence is the mid-point of the Bible-proclaimed—and recently attained—span of temporal human life, that of threescore and ten.

One may rightly ask the question: Is it that women are more shamefaced than men, that the disease of rosacea is so much more prevalent in them than in their biologic opponent, men? Or can it be that the female facial soil is richer in fine blood vessels?

Is some unknown hormone of the female gonadal system at its nefarious work, a glandular product which the medical biochemist of the future will unearth?

Does the cutaneous transparency of the Caucasian act as a predisposing agent, since the more deeply pigmented Negro is rarely, if ever, the subject of rosacea?

After months of irritability of the face, and frequent and ever more lengthy episodes of persistent facial redness, individual spots of highly accentuated inflammation appear. These spots resemble the characteristic pimple of adolescent acne.

Some of these acne-like lesions blossom forth like shining torchlights. They are hot, burning and intensely red. Some arise from apparently non-inflamed normal skin, while others spring forth from highly inflamed facial facade. Some are so superficial that they are hardly raised above the cutaneous level, while others, deep-seated, are boil-

like. Some are covered with a thick roof, while others are enveloped in such thin-walled enclosures that the slightest injury occasioned by washing or drying ruptures them and permits the pus content to become exposed to the drying effect of the atmosphere. This results in the formation of crusts and scabs, which add to the embarrassing disfiguration of the disease.

All of this is localized, more or less, on the midmost third of the forehead, on the nose and the area of the cheeks adjoining it and the surface area of the chin, grossly prominent and startlingly attention-provoking.

To add to the embarrassment of its victims, overindulgence in alcohol is popularly considered a frequent agent in its production. This idea, however, is unacceptable in view of accumulating evidence. Clinical data, realistically interpreted, make it clearly evident that blame has been erroneously placed on certain acts, foods, drink, physical defects and functional alterations as universal causative agents. In our calculations we were unmindful of coincidence of a not infrequent skin disease and certain equally or more so common habits or functional and structural alterations prevalent at certain age levels.

The Middle Age Blush

In present day consideration, it will soon be a commonly accepted thesis that rosacea is a form of folliculitis. That is, it is an inflammatory disease of the skin arising from a variety of causes. Instead of being a disease in its own right, it must be considered more in the light of a group of symptoms. Because of this its treatment to be effective must be intensely individualized and purposefully directed to a particular cause rather than to a preconceived rule of thumb procedure.

The practical importance of the above is readily demonstrated in an even cursory review of short snatches of clinical histories. These will help you to understand why the same lotion, the same ointment, the same exposure to an actinic ray or the same internal remedy meets with such varied results in varied patients. In perusing the succeeding case notes, it may be kept in mind that in all these patients the diagnosis of rosacea was unequivocally confirmed by more than one competent and fully accredited dermatologist.

Mrs. R.L. was allergic to the zinc salt component of her face powder.

Mr. F.I. had to give up chocolate and use sulfur soap.

Mr. J.M. needed an extra supplement of riboflavin in addition to the discontinuance of the use of soap on his face. (Now he uses a detergent.)

Mrs. V.K. was cured of a pustular form of rosacea of three years' duration by a course of penicillin.

Mrs. R.E. had a scalp disease which responded to use of a sulfur-containing ointment. With its disappearance, the rosacea also was cured.

Mrs. R.C.'s inflamed face quieted after a gastroenterologist gave her small doses of belladonna in elixir phenobarbital because of a neurosis.

Mrs. F.G. had to have ten weekly intravenous injections of gold sodium theosulphate and the nightly application of a sulfur-containing cream.

Mrs. T.McL.'s face is kept in reasonably good shape with uninterrupted injections of a hormone. When she neglects these, her face glows anew.

Mrs. A.H. needs dilute hydrochloric acid with each meal.

Miss N., Mrs. W. and Mrs. K. had intractable rosacea for four, five and seven years respectively, but they were cured after the extraction of badly infected teeth.

Mrs. M.S. needed an ointment.

Mrs. V.E. had to stop the use of cleansing creams and return to soap and water for washing her face.

Mrs. C.S. was benefited by the application of sulfur-containing dry ice slush and the injection of thyroid gland substance.

Mrs. McL. was cured by ultraviolet ray radiation.

Mrs. J.D. cured herself of a rosacea of seven years' duration with menopause.

Mr. F.S. stopped all treatment and a rosacea of ten years' standing cleared of its own accord.

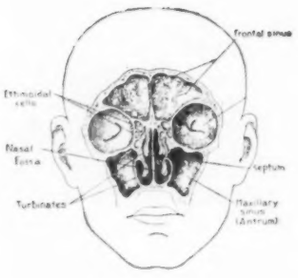
In addition, I could furnish many more case histories, more than I would like, of patients who were not helped by any treatment which I instituted, though they cooperated in every way possible.

Now you will ask just what does all this mean—how must one interpret such varied and such inconclusive data?

The answer is not simple. This problem exemplifies the least appreciated, the undramatic phase of clinical medicine, which still must rely on clinical acumen, on painstaking personal observation, on intelligent evaluation of results, rather than a wishful and generalized interpretive approach. It further exemplifies the need for the personal quality in the relationship of the patient and the physician.

NASAL NIGHTMARE

by
SAMUEL J. KOPETZKY

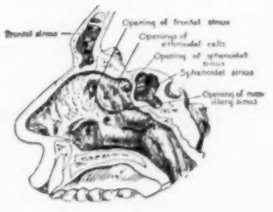


TO EXPLAIN what happens in the condition called, for want of a better term, postnasal drip, a description of the nasal structures and some of their functions is a first necessity. An additional factor needs notation also; this is the fine mechanism that keeps the respiratory tract clear of substances which intrude into it. From the aspect of the layman, and in terms not employed by anatomists, the nose may be envisioned as the irregularly shaped tubular termination of the upper respiratory tract, open to the air at the face level. At its other end, it opens into the vault of an air chamber—the *vault of the pharynx*—which receives the inhaled air coming from the nose, as well as the air coming from the lungs in breathing out.

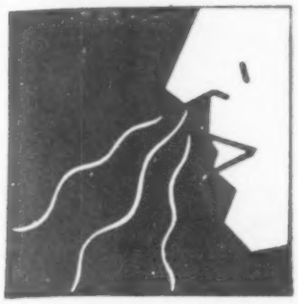
This tubular end of the upper respiratory tract is divided into two compartments by a wall composed partly of bone and partly of cartilage—the *nasal septum*. Openings from these compartments (the right and left nostrils) lead into the adjacently situated sinuses. The compartments, lying side by side, are higher from floor to roof than they are wide. On each side wall—the sides toward the cheeks—there are three ledgelike ridges covered by the mucous membrane which lines these tubular cavities. These ridges differ in size and shape. The upper one is the smallest, the next larger and the lowest is the largest of the three. These are called the *turbinates*.

Between these membranous ridges are the *meati*, or spaces of the nose through which it carries out its physiologic function, namely that of regulating the quantity of air inhaled at each breath and the moisture that it needs to be acceptable, as well as warming the air to the needs of the body. The surface of the lining of the nose and the ridges or turbinates is a type of epithelium or covering tissue that possesses *cilia* or minute hairs. Under automatic nervous control, these hairs move in a propulsive wave. Other cells in the mucous membrane excrete a moistening substance called *mucin*, which is bacteriostatic or inimical to the growth of germs and also is to considerable degree a bacteriocidal or germ-killing agent.

There is another gadget, if I may be permitted the term, which the nose possesses. This is the extension of soft tissue from its back or pharyngeal termination, the *soft palate*, which at its center is turned sharply downward in a dull-pointed prolongation that can be seen from the open mouth and is called the *uvula*. Actually, this uvula is like a solid drain. Whatever secretions the wavelike impulses of the ciliated epithelium bring to it from the nose flow down to the tip of the uvula and drop on the *lingual tonsil*, which is situated at the base of the tongue and is one of a ring of glandular structures in the throat. The glands defend this portal to the body against every kind of deleterious invading agent. From the above sketch it can be rightfully assumed that when anything is inhaled that is deleterious to the health of the body, it will be encased in musin and propelled backward toward these defense mechanisms so situated that the health of the body is maintained.



In a similar manner, but in the opposite direction, the hairlike impulse-wave of the cilia is carried out from the lower bronchi or air passages at the lungs, upward through the windpipe and voice box and into the hypopharynx, the lower part of the pharynx. These structures, too, are lined with ciliated epithelium which performs a function analogous to that of the ciliated lining of the nose, but in opposite general direction. When particles get past the ring of defense structures in the throat, the action of the cilia brings them back again to the pharynx, in most instances without a cough, although coughing and "hawking" do occur when the trachea or lungs are themselves the seat of disease.

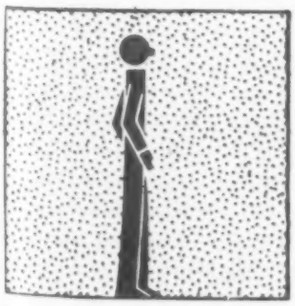


The nose acts to warm, clean and moisten the air inhaled.

Occasionally the material dripping from the back of the nose into the throat is swallowed. When this matter reaches the stomach, no harmful after-effect results. That is one way to get rid of it. The few exceptions are instances when it reaches a stomach whose function is already disturbed. Even then it is a threat of further deterioration of health only if the nasal discharge contains virulent disease-causing bacteria. This would be the case where a purulent infection in one of the paranasal sinuses discharges pus into the nose, and part of this discharge is comprised in the secretions of the postnasal drip and swallowed into a stomach whose lining membrane is already deranged by physiologic dysfunction. Often the stomach is threatened much more when there is an acute upper respiratory infection than from a postnal drip arising from a chronic paranasal sinus involvement.

From these crude sketches of both anatomic (structure) and physiologic (function) import, it must be apparent that the drip evidences a protective activity which in most instances is harmless, and that its stoppage would augment the seriousness of a nasal infection. It holds little threat in itself to either the lungs or the stomach. Only one type of discharge back from the nose endangers health. That is a postnasal drip carrying virulent bacteria, and this is relatively infrequent in relation to the many persons who come to us complaining of the postnasal drip.

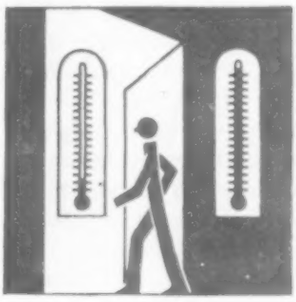
There are many other factors which cause a postnasal drip. These relate to modes of life, such as living in overheated rooms, where the air lacks humidity, or working in industries where irritating fumes, factory dust or stone dust is inhaled. Excessive use of tobacco and alcohol is a factor pertinent in producing excessive nasal secretion and hence postnasal drip. Emotional disturbances, too, play their part in producing the condition, and obviously endocrine or hormone disturbances and imbalances also contribute their quota of cases exhibiting an excess of secretions in the nose and the so-called postnasal drip. In children, little foreign bodies which they playfully put in their nostrils and forget cause a severe excess of nasal secretion. Lastly, allergies, caused by either inhaling or eating substances to which the patient is sensitive—ranging from specific allergens, like the pollens of ragweed and grasses which cause hay fever, to many others not all of which can be differentiated—result in excessive secretion in the nose and produce postnasal drip.



Pollens and irritating dust and fumes are often factors.

That "current American nightmare," drainage back from the nose into the throat, is part of a normal defense mechanism.

Some of our patients have habits of self medication and of continuing to use nose sprays or drops after they have been prescribed by the physician to accomplish a specific goal. Because of the effects of these drugs, they feel that they have a greater freedom of nasal respiration, and continue the use of the doctor's prescription long after its purpose has been accomplished. Frequently there result after-effects which cause postnasal drip. In many a patient whom I have seen, this habit is very difficult to break. Yet when the patient does overcome it, the postnasal drip becomes inconsequential.



Living in overheated rooms harms the nasal functions.

There are other conditions, severe in themselves, which cause postnasal drip. But these have specific characteristics that give timely warning. They are easily recognized as different from the usual drip of which so much complaint is made. In them an offensive odor is usually present in addition to the drip. The discharge has the nature of pus and is often tinged with blood. And in them the postnasal drip is, to the patient himself, only an incidental symptom—and not the whole substance of his complaint.

Postnasal drip has been called, by the otolaryngologist, Dr. Arthur W. Proetz, "The Current American Nightmare." The condition is a cause of anxiety and apprehension to many. They should learn that it is usually harmless and that it often results from conditions inherent in modern living. What should be remembered is that it is oftentimes a psycologic reaction induced by irritants and its function is to mitigate and remove them. True enough, it is a nuisance. Its cause needs study, and its excess may be controlled by attempting to remove its cause. The sinuses should not be held responsible. Often they are not the causative factor.

Excessively dry air may be a cause of postnasal drip.

Avoidance of excess in tobacco, alcohol and emotionally exciting experiences, as well as care in maintaining a degree of moisture in our bedrooms, will prove beneficial.

by MEYER L. NIEDELMAN

I WELL remember the look of chagrin and despair on the face of a well-known business man when told he had skin cancer. As he listened to an explanation, however, another change of expression, as striking though more gradual, took place, for skin cancer can be cured if recognized early and treated judiciously.

Doubtless the long years of cancer research by individual workers will one day be brought to fruition. The goal will be reached much sooner once the same drive which has characterized the study of atomic power for military purposes can be directed toward pooling scientific and financial resources for the fight against cancer. It is not impossible that atomic power itself may play some part in the solution of this problem.

In the case of cancer of the skin as in other types of cancer, attention is being directed more and more toward preventive measures and to the treatment of so-called precancerous conditions. Concerted efforts to educate the public regarding the importance of consulting a physician for any persistent "sore," "lump" or nonhealing irritation of the skin have borne fruit with resulting earlier and more frequent diagnosis of cancer leading to more successful treatment and fewer casualties.

Although the cause of internal cancer is still problematic, that of skin cancer has been established in many cases. Skin cancer seems related to some insidious cause exerting its effect over a long period of time. It is frequently attributed to contact with soot, tar, oil or tobacco or exposure to the sun as well as heat and slight or repeated injuries.

Even sunlight, known as one of nature's greatest healers, may change into a menace upon excessive exposure. Nothing is more beneficial or attractive than a beautiful suntan, but warning has been sounded that indiscriminate exposure to the sun's rays may play an important part in predisposing to cancer. This is true especially in fair-skinned, blue-eyed people, who have less pigment in their skin to ward off the harmful effects of the sun on a sensitive skin.

It is well known that farmers, sailors and those exposed to the sun have a high incidence of skin cancer. A survey made recently stated that deaths due to cancer of the lip were three times as great in the Navy as in the general population. Negroes and brunettes have a pigment in their skins protecting them against the effects of light rays and are, therefore, less susceptible to cancer development from this cause.

Inherited predisposition seems to play a less important part in skin cancer than in cancer of the internal organs. Since cancer incidence increases with age, and according to recent forecasts the aged will constitute an increasing fraction of our population, cancer will also become more common unless our methods of prevention, early diagnosis and treatment are stepped up.

Cancer not infrequently develops in scars and burns. They therefore should be watched carefully for ulcers or fissures which do not heal.

A predisposition to cancer has been observed in workers employed in certain industries. Thus we hear of chimney-sweep cancer, miner's cancer and mule-spinner's cancer. In most industries where a product coming in contact with the skin has shown cancer-producing properties, precautions are taken in the selection of employees, with rejection of blonds, red-haired or easily freckling types. Workers showing precancerous skin conditions are transferred to other work not injurious to the skin.

Special attention is directed to improve hygienic working conditions. Thus oil-soaked clothing is

placed in heated lockers for thorough drying every night. Various protective oils or ointments are also provided to protect the skin of the workers from injurious agents. Experiments are proceeding in the search for substances to protect the skin from injurious light rays. In x-ray departments and in factories in which radioactive materials are used, proper screens, gloves and aprons are provided for protection of the workers.

It is well known that clay pipe smokers are prone to cancer of the lip due to the heat of the stem. Ill-fitting spectacles, by causing irritation, may be the focal point of skin cancer. Moles and warts on any part of the body subject to repeated trauma or irritation may develop into cancer.

Skin cancer at first may look like an ordinary cut or abrasion. The most common site is the face, especially the nose, ears and under the eyes. If such a sore spot does not heal and forms either a raised button-like lesion with a central pit or an excavation, one should consult a physician.

It should be kept in mind that any irritation of the skin which refuses to heal may be a beginning cancer. A birthmark that begins to spread, especially if of the dark non-hairy type, should be immediately investigated. There are many untimely deaths because of negligent waiting.

Treatment depends on the location, extent, and type of the cancer and the age of the patient. The physician has at his disposal many methods of completely eradicating cancer such as cautery or electrosurgery, surgery, x-rays or radium. In the vast majority of cases the cosmetic results—that is, the results in regard to the patient's appearance—are very good, with little or no deformity. Recently a well-known dermatologist treated almost 2,000 skin cancers with 97 per cent cures. It goes without saying that the longer the cancer has existed and the more tissue it involves, the lower will be the percentage of cures.

Upon noticing any of the signs described above, your first duty to yourself is to consult your family physician, who will be able to tell you whether the condition is benign, that is, noncancerous, or malignant, which means that it is a cancer. If in doubt, he will refer you to a dermatologist or skin specialist.

The great danger of seeking aid from quacks or self-advertised "doctors" and of prolonged self medication cannot be too strongly emphasized, since many a case of preventable or curable cancer has gone on to a hopeless stage due to procrastination.

The futility of attempting self treatment of a condition that taxes the most brilliant specialists should be self evident. Place your faith in your physician, your dermatologist and the other specialists cooperating with him. You can assist them by seeking their aid early and by joining in all community activities directed toward organization of the fight against cancer. As science advances, and we have the help of such measures as the electron microscope, radioactive tracers and new discoveries in the chemistry of the body, we may hope for an increasing understanding and control of this disease.

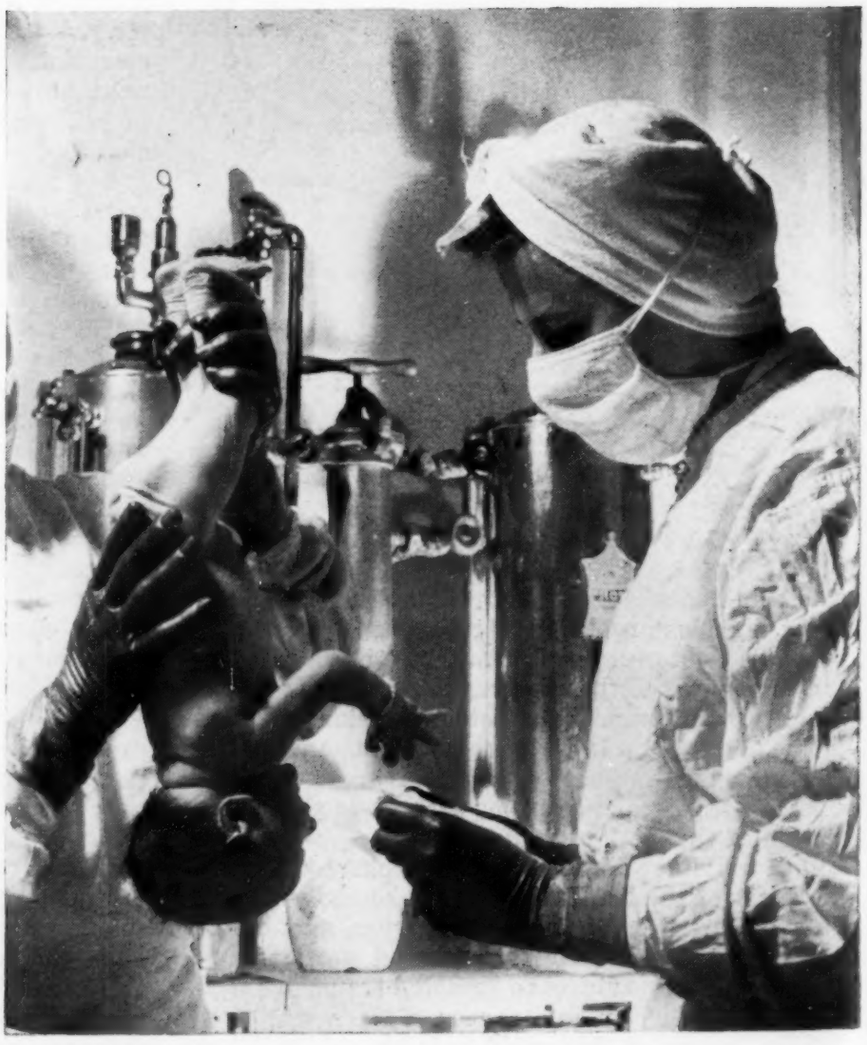
As a final message, I would urge the reader to exercise critical judgment in evaluating advertisements for quick cancer "cures," and to avoid whenever possible exposure to slight or repeated injury of any kind. Attention to ill-fitting spectacle frames and hearing aids is important. Avoidance of shaving injuries, burns from curling irons or cigarettes may seem of trivial significance, but cancer has been known to develop even after single or slight injuries to the skin. Lastly it cannot be emphasized too strongly that you consult your family physician—immediately—for any skin lesion that seems unusual or unduly slow in healing.

BABY'S FIRST HOUR

Scrubbing up—a major item in the technics that make childbirth safer than ever before.

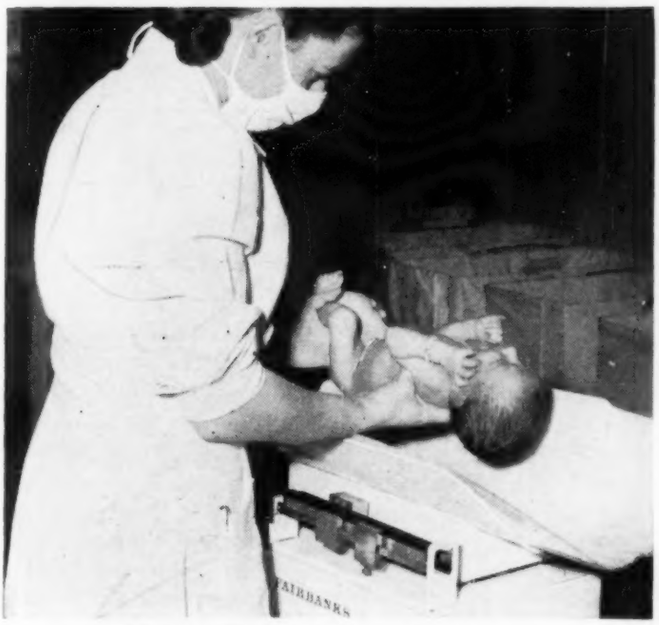
IT'S a busy world, and certainly Baby's introduction to it must make it seem so to him (or, in the case of these photographs, to her). First breath, first wardrobe, first medicine (prophylactic eye drops), first physical examination, first weighing (a procedure she'll take much more seriously in eighteen or perhaps forty years), first contact with officialdom (the birth certificate) and first meeting with Dad (in which Baby, like practically everyone else, seems inclined to ignore him)—what a series of firsts! It happens a million times a year in the hospitals of the United States, but each one is a special event, not only to Dad and Mother but to the physician and the nurses, for to them each baby in the crowded nursery is not only an individual in physical terms but a Personality. Some of the high spots of that crowded first hour are shown in this series of photographs.

Photos by Roy Pinney (Monkmeyer)

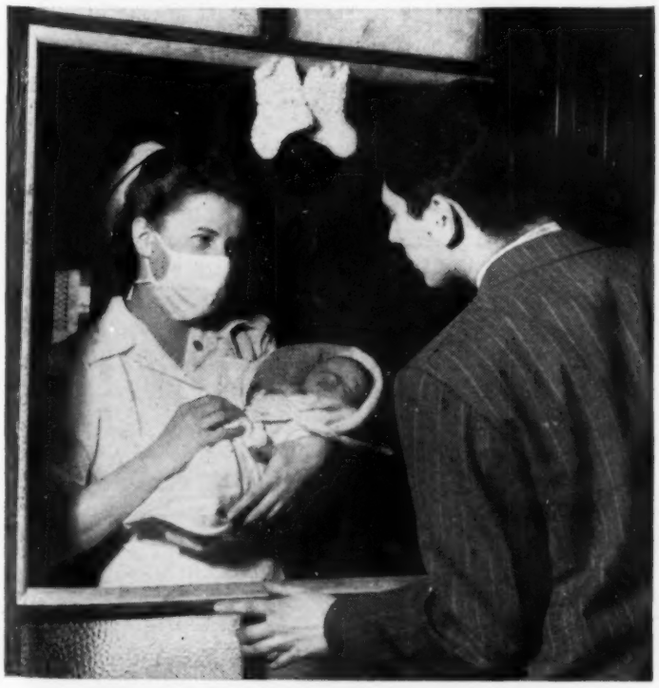


A gentle slap; Baby takes her first breath and utters her first protest—loudly.

Her first "jewelry" is an identification bracelet of beads that spell her name.



She passes her first physical examination; weight, height, heart and lungs are ok.



A proud if weary Dad catches his first glimpse of his new daughter—through glass.

Antiseptic eye drops prescribed by law prevent a once prevalent form of blindness.

A nurse puts her in her crib in the nursery that for a few days will be her home.

Signed and sealed, it's official! And now she's going to sleep. It's been a busy hour.

GET THE

1. Cook all foods just to "doneness," but no longer.
2. Time cooking so that foods will be done just before eating, if they are to be served hot.
3. Cook only as much as can be eaten at one time.

by AMALIA LAUTZ

VITAMINS You Pay For

THE AVERAGE American has become aware of health factors such as vitamins and minerals in foods. All who buy food are conscious of present high prices, both of food as purchased for home preparation and when "eating out" in hotels and restaurants. There is less awareness of how food nutrients, especially vitamins, may be lost and consequently the health value cut down in the fruits, vegetables, meat, milk and other foods purchased at such high prices.

Length of storage, drying and oxidation from the air, heat, water and oil solution, sunlight and alkali, each, in certain circumstances, may lower the vitamins we get from foods. In addition, we customarily discard parts which are especially high not only in vitamins but in minerals.

The fresher foods are when we buy them, the higher the vitamin content will be. This is especially true of the ascorbic acid or vitamin C content of fruits and vegetables. Raw fruits and vegetables, particularly those which are not very acid, gradually lose their vitamin C after picking. Dried fruits and vegetables retain little vitamin C and what is left after drying diminishes further the longer they are kept before using. This is true also to some degree of the B vitamin, thiamine, and of carotene, vitamin A.

Cold slows up vitamin destruction. Loss of vitamins can be retarded by storage in a refrigerator, and not, as many raw fruits and vegetables and all dried fruits are customarily kept in homes and food stores, at room temperature. Thiamine in dried meat is markedly reduced at room temperature, but destruction is retarded by refrigeration at about 40 degrees. It is only good sense to keep dried beef in the refrigerator, and many other foods profit by it. This is especially true of the fresh, raw fruits and vegetables on which you depend for vitamin C.

Overcooking may destroy vitamins, especially ascorbic acid, and also thiamine, pantothenic acid, pyridoxine, folic acid and biotin. The longer we cook foods and the longer we keep them hot the greater is the vitamin destruction. Reheating previously cooked foods further lowers the amount of vitamins we get from them. Toasting and drying bread and cereals in the oven and cooking cereals, vegetables, fruits and meats all lower the vitamin content increasingly as the heating time is extended. To insure getting the maximum vitamin content possible from cooked foods, make it a rule to cook just to "doneness," time cooking so that foods will be "done" just before eating and cook only enough for one meal.

When "eating out" in restaurants and cafeterias, one gets the highest vitamin return by going at the beginning of food service, when foods have just been prepared and cooked. While foods are being kept hot on steam tables or otherwise, as customary in commercial food service, destruction of heat-sensitive vitamins progresses rapidly. Habitually eating night dinner in restaurants serving the same dinner menu at night as at noon may lead to a real vitamin deficiency if foods have been kept hot continuously or reheated. This is especially true with the all too common custom of many Americans, of depending on their night dinner for most of their daily food, with only a coffee and toast or doughnut breakfast and a coffee and sandwich lunch.

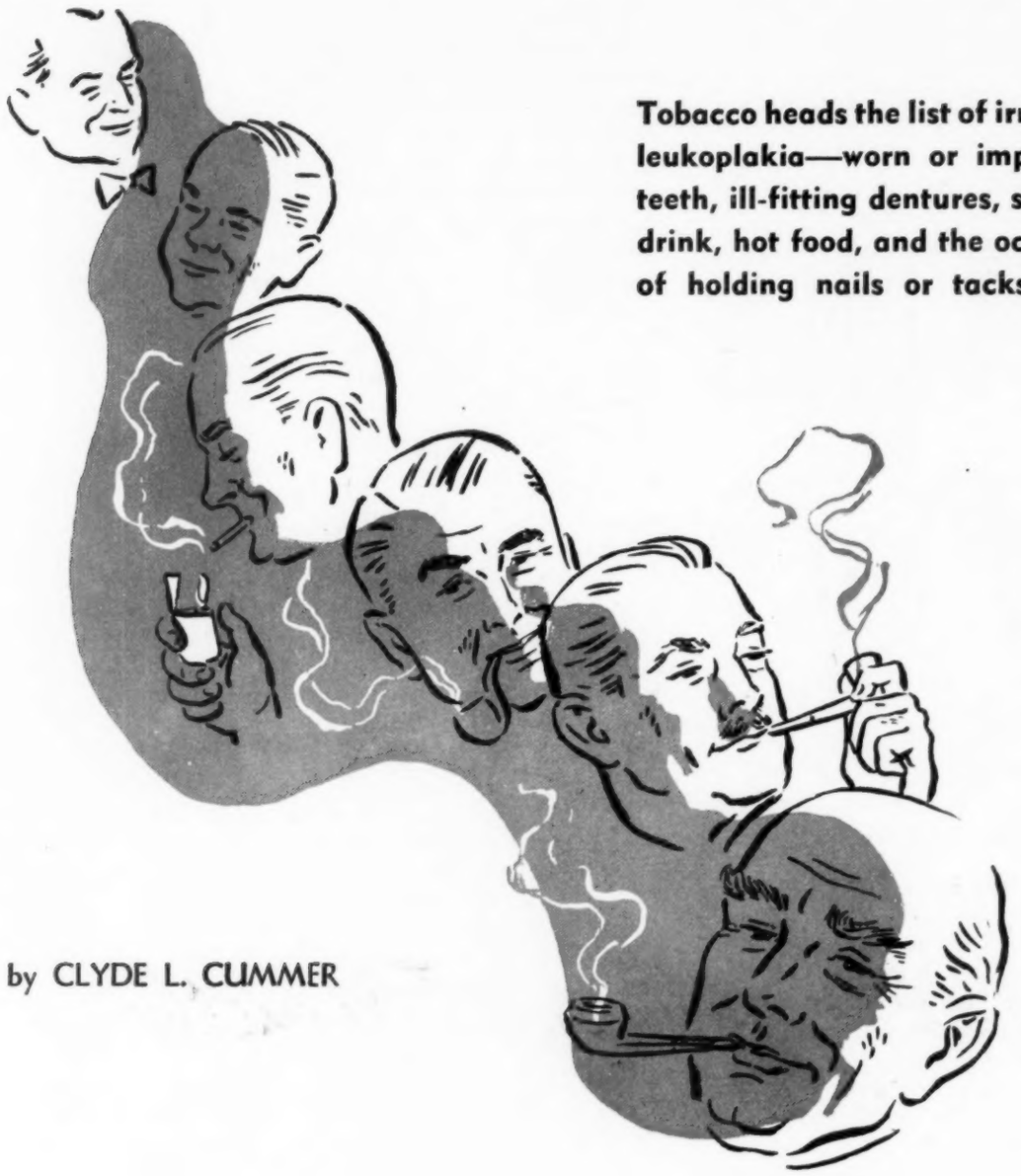
Water dissolves not only many vitamins but minerals as well. Amounts of water used in cooking fruits and vegetables should be small. Water in which foods have been cooked or soaked should be used otherwise, if it is not served with the food as in meat stews and stewed fruit. The cooking water from vegetables can be used in making soups, in diluting canned soups and in stewing meat. Foods that need to be washed should be washed rapidly and not soaked.

Dry cooking, such as baking vegetables and roasting and broiling meats, lowers and in some cases entirely prevents loss of vitamins by water solution. Any drippings from broiled or roasted meat and juices from baked fruits and vegetables should be used, preferably as a part of the dish prepared, for they are high in soluble vitamins and minerals.

Oxidation destroys certain vitamins, particularly ascorbic acid. Cutting, chopping, peeling, mashing and juicing fruits and vegetables increase the surface which the air can reach and so foster oxidation. Working slowly and using metal knives and metal strainers and mashers also increase it.

When fruits and vegetables are pared before boiling, and especially when they are shredded or cut small, much more dissolving takes place also, because of the increased surface which the cooking water can reach. We get more vitamins if we cook and serve fruits and vegetables whole and unpared. Whole oranges, grapefruit and tomatoes are better sources of vitamin C for any normally healthy adult than their juices.

Canned fruits, vegetables and juices should be bought in cans small enough to use up at once, and not opened until ready to (*Continued on page* 137)



Tobacco heads the list of irritants that cause leukoplakia—worn or improperly meeting teeth, ill-fitting dentures, strongly alcoholic drink, hot food, and the occupational habit of holding nails or tacks in the mouth.

by CLYDE L. CUMMER

LEUKOPLAKIA, sometimes called "smoker's patches," is one of the common ills that affect the mouth. The first symptom noted by the patient may be a sensation of roughness perceptible to the tip of the tongue as it explores the cavity of the mouth, or sensitiveness to sour or highly spiced articles of food. Often there are no subjective symptoms (those noted by the patient) and the condition is discovered only in routine examination by physician or dentist. That there is so little to attract the patient's attention is unfortunate, because if the white patches were recognized earlier, appropriate measures might be taken to arrest their progress. The importance of this will be discussed later.

Regarding the predisposing systemic causes we have no definite knowledge but unquestionably the process is initiated by irritation and the first indication on the mucous membrane is a red, well defined, granular patch which soon becomes slightly white or gray.

The lesions may be pinhead in size or much larger, and may be in the form of streaks, discs, bands or patches. Often the color resembles that produced by touching the mucous membrane lightly with silver nitrate solution. Unless suitable steps are taken early the condition becomes chronic; the gray to milk-white patches become fixed in position and begin to enlarge. The surface, especially of the tongue, may give the impression of being covered with a membrane, but this appearance is deceptive, since the apparent membrane cannot be removed by rubbing or even with forceps.

A patch may not progress beyond the early stage but usually its surface layer becomes thicker. Definite wrinkling of the surface is seen in moderately advanced cases due to buckling of the thickened layer. This may lead to cracking or fissuring. When the patch is eroded, weeping or ulcerated, one authority feels that probably malignant change—the transition to cancer—has already occurred.

Any portion of the mouth is subject to leukoplakia including the gums, cheeks and tongue and the roof of the mouth. A usual location is on the inside of the cheeks along the line where the upper and lower teeth meet. The patches may be few or numerous. The entire tongue or roof of the mouth or the lining of the cheeks may be covered. The ap-

pearance of the disease on the palate differs from that seen elsewhere, for here the central portion is studded with small gray papules or bumps, each capped with a small central red dot. Microscopic examination of tissue shows the effects of inflammation in the cells of the layer beneath the surface. Similar changes are found in dry, scaling patches on the faces of middle-aged and elderly people, particularly those exposed constantly to the irritating effects of sun, wind and weather.

Some conception of the frequency of leukoplakia may be gained from the fact that 237 cases, about 1.4 per cent, were found among approximately 17,000 persons examined at a Veterans Administration facility. Men are affected predominately, although the proportion may change now that women are becoming addicted to smoking in ever-increasing numbers. In younger people, the condition is relatively rare; it occurs more frequently in middle age and after. Negroes are seldom affected.

Among the causes dental defects rank high. Faulty occlusion often injures the mucous membranes through almost constant biting of the cheeks. The rough edges of worn or decayed teeth, especially the sharp snags often seen in neglected mouths; crowns and bridges; the clasps and bars of dentures, and poorly fitting plates rubbing on the tongue, lips or cheeks are potent sources of danger

Leukoplakia of the Mouth

because of ever-present irritation. Some authorities hold that, in a mouth of sufficient acidity, the use of differing metals like gold and mercury in amalgam fillings may set up electrolytic currents and thereby cause irritation.

Among local irritants tobacco has been recognized for many years as one of the leading causes. Evidence of this is found in the fact that the popular name for this condition is "smoker's patch" in practically all European languages. The cud of tobacco carried in the cheek almost constantly by some chewers is an irritant responsible for many cases of leukoplakia of the cheek. With any method of smoking both the heat generated and the tarry combustion products are irritative factors. Contrary to popular notions, many physicians are convinced that the pipe is the most dangerous since it directs a stream of hot smoke directly against the same area. Even the hot stem is a potent irritant. The fact that the pipe is almost always held in the same spot in the mouth, increases the hazard. Both cigar and cigaret butts, unless smoked down too far, serve at least partially to filter the combustion products and to cool the hot smoke.

Indeed, tobacco is such an important factor that one writer went as far as stating that he had never seen leukoplakia in the mouth of a nonsmoker. All are in overwhelming agreement that the majority of leukoplakia victims are tobacco users. The percentage runs from 80 to 95. It is significant that leukoplakia has been induced experimentally in rabbits by daily exposure to tobacco smoke.

Other local irritants include beverages of high alcoholic content, hot fluids and highly spiced foods. The condition is seen also in members of trades who hold nails and tacks in their mouths while working. Further indication of the effect of local irritation is found in betel nut chewers, whose quid contains lime and tobacco as well as areca or betel nut, in certain parts of southwestern India. An observer writes that it is noted especially in coolies whose diet is deficient in protein and vitamin A.

Syphilis undoubtedly furnishes an important systemic background in some cases but, according to present concepts, its role is not as great as was thought at one time. Leukoplakia is particularly likely to occur in those with a long-standing infection for which either no treatment at all or grossly inadequate treatment has been given. This type of leukoplakia is sometimes referred to as "white paint" tongue because the patches have the appearance of daubs of white paint. Becker also refers to leukoplakia just inside of the corners (commissures) of the mouth and not elsewhere as an almost certain sign of an old syphilitic infection.

The important question is, what can be done about this condition when it has been recognized? The answer depends on the extent and severity of the lesions. A single small spot may clear spontaneously on removal of the cause by such simple measures as smoothing the sharp edges of the roughened tooth, correcting malocclusion of the teeth, making repairs to bridges or other dentures. Periodic care by the dentist is most important, and so is the observance of proper oral hygiene. Abstinence from tobacco is a "must." The leukoplakia of the palate occurring most frequently in pipe-smokers has been known to clear completely on giving up the habit and, interestingly enough, also in some instances after covering the palate with a dental plate in those who refuse to discontinue smoking.

Mild alkaline mouth washes should be employed; excessively hot, highly spiced or sour foods should be avoided, as should beverages with high alcoholic content. Any treatment employed should be nonirritating, and it is unwise to subject the patches to repeated applications of (*Continued on page* 136)

Are there too many people *in the World?*

by HALBERT L. DUNN

ON THE southern border of Montana near Yellowstone National Park, the tiny mining town of Cooke City lies at the base of the Sawtooth Mountain Range. From here, with the aid of a guide and a sure-footed mountain burro, you can wend your way upward over a rough and rocky trail to Grasshopper Glacier.

Dropping on hands and knees to examine the grasshopper studded ice, one cannot help but ponder over the prodigality of Mother Nature and wonder at the strange recipe worked out by her—the blending of just the right amounts of moisture, heat, food and grasshopper larvae, the omission of the natural enemies usually present—resulting in the growth within the span of weeks of a vast host of crawling, crunching locusts which blacken the ground, strip the leaves from the trees, and devour every blade of grass.

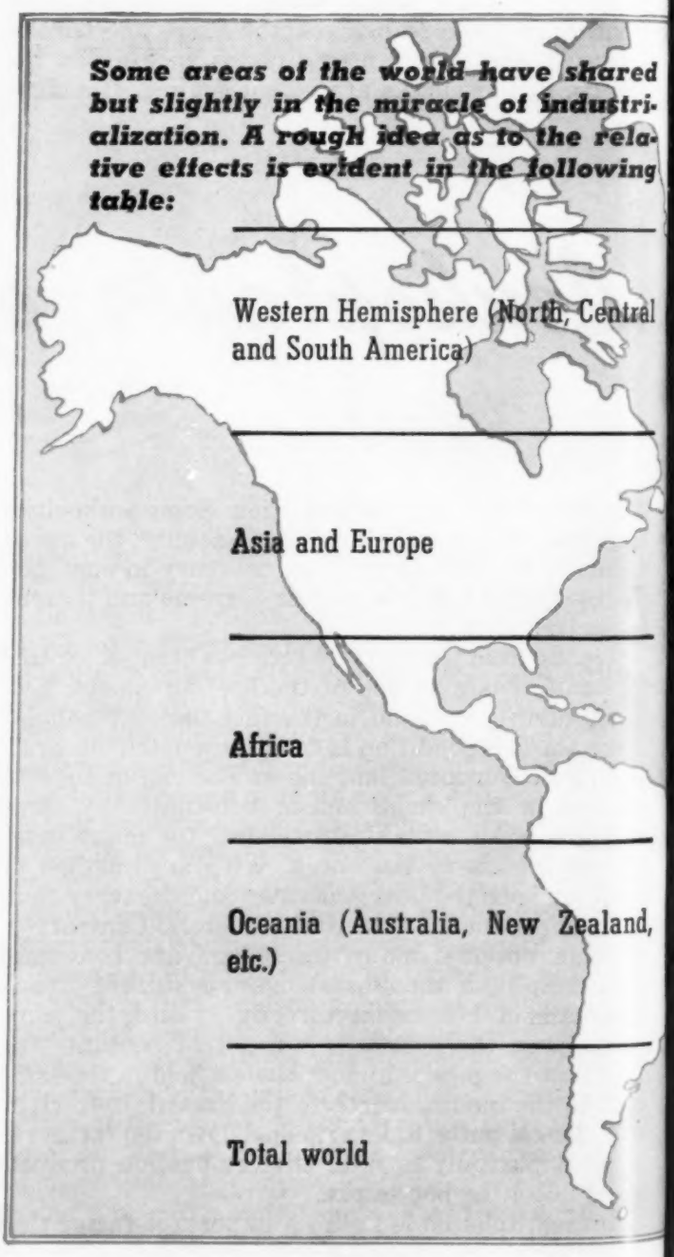
In the mind's eye, one can see them, centuries ago, as, hunger unappeased, they whirled aloft—a huge black thundercloud—rolling towards the hills, only to be enfolded in a blinding snowstorm and driven downward into the hollow between the mountains.

During the last 300 years, Mother Nature has been working out a much more complicated recipe in human population growth. The ingredients have been mixed together and, for better or for worse, her experiment is well under way. Many indications are present that forebode disaster to the human race unless the present trends in population change.

Mankind has existed on earth about 500,000 years. Gradually the human race has grown in numbers. By the middle of the sixteenth century, the world population had increased to about 445 million people. From that time to this, a span of 300 years, the world population has increased more than four times, to approximately 2 1/5 billions of persons. This tremendous increase has taken place in less than one thousandth of the known time of the existence of mankind. Even now, in some parts of the world, human beings are like the hungry locusts in their search for food, and population pressures have become so severe as to threaten mass migration to greener lands.

The primary force responsible for this upsurge in human population has been the development of science. By means of science, potential abundance for the good life has been made possible to mankind. By means of it, the power which is now available to man has become increased a millionfold. By means of it, the distances of the world have been annihilated for sight and for sound, and have shrunk to trivial dimensions for the transportation of things and of people. These changes have come so rapidly that it has not been possible for man to repattern his social organizations so as to keep up with his ever changing physical environment.

What makes these considerations even more alarming is that nothing in the present picture suggests that science is losing its power to change our society. If anything, the tempo of invention is increasing. Now that the mysteries of the atom are being solved, the unlimited power of atomic energy will become a tool for mankind to direct; a power for good or for evil; a power to destroy the world


Some areas of the world have shared but slightly in the miracle of industrialization. A rough idea as to the relative effects is evident in the following table:
Western Hemisphere (North, Central and South America)
Asia and Europe
Africa
Oceania (Australia, New Zealand, etc.)
Total world

of man if unleashed in war. The release of atomic energy cannot be considered just another invention. From it will come the atomic age. Our social organizations, as yet but poorly adapted to withstand the stresses produced by the industrial revolution, must now withstand the far greater strains of coming atomic revolution.

The rapidity of growth of a population depends upon the extent to which the birth rate exceeds the death rate. Prior to the scientific age, mankind had reached more or less of a balance between the birth and the death rates. The birth rates were uniformly high, but so also were the death rates. Science brought to man a knowledge of how to control his death rate—weapons to protect him; increased agricultural yields per acre to feed him; transportation of things to level out the scarcity of one region with the abundance from another; and the knowledge of disease control and sanitation to stamp out the great plagues and make the world a healthier place for him to live in.

The net effect of science on population growth was first evidenced as a general lowering of the death rate in many countries and over numerous decades. From 1800 to the present time, the Western countries have experienced an almost continual decline in death rates. At first these declines were small—then they became large, and now have once again become small until at the present time the death rate of the United States is practically the same from one year to the next.

Since birth rates remained high during the early years of these declining death rates, the populations of the industrial countries began to grow. It was almost three-quarters of a century after death rates began to decline before birth rates, also, commenced to fall. Once this trend downward started, the birth rate soon fell faster than the death rate—and this in turn, slowed down the population growth. The present cycle of population growth in the United States is due to the fact that almost no people inhabited the area to start with, and also that its people enjoyed a high degree of industrialization. This cycle has (*Continued on page* 140)

Land area in units 100 miles square	Estimated population in millions		Ratio of increased population in 140 years	Density in persons per square mile 1939
	1880	1939		
1641	29	271	1 to 9½	17
2062	788	1690	1 to 2	80
1170	100	154	1 to 1½	13
330	2	11	1 to 5½	3
5203	919	2126	1 to 2⅓	41

Where WHAT'S LEFT Works Wonders

by LOIS MATTOX MILLER

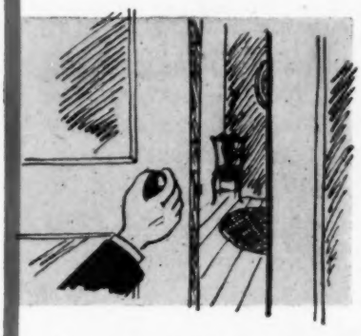
Technics born in World War II are returning thousands of badly maimed veterans and civilians alike to useful and active careers.

ON July 4 last year, Tom Wilson, formerly a successful young lawyer, lay flat on his back thinking over the ironic fate that had placed him in this last of a long series of hospital beds.

Six years earlier Tom was stricken with polio. When the ordeal was over he was bedridden and helpless, paralyzed in all four limbs. He spent the next five years shifting from hospital to hospital before accepting the verdict that his case was hopeless. Finally, in June, 1947, he entered a home for incurables. This was it.

But July 4, 1947, really was Independence Day for Tom Wilson. That afternoon a young interne drove him to a nearby country home where Dr. Howard A. Rusk, New York University professor of rehabilitation and physical medicine, was a guest. From tall, friendly, youthful Dr. Rusk, Tom received the first encouragement he had heard in six years. Certainly he could be helped—if he wanted to help himself. In the new department of rehabilitation at N.Y.U.-Bellevue Hospital, in New York City, crippled and disabled people were getting out of bed and literally learning to live again.

Two days later Tom was moved into a big, cheerful ward overlooking New York's East River. The place was unlike any hospital he had ever seen before—a beehive of activity where every patient was crippled but none remained "disabled" for long. Within a few weeks he had learned to attend to most of his small needs without help. Soon he was using a remote control electric typewriter to catch up on correspondence that had been neglected for six years. With the help of a mechanical gadget he was using a dial telephone. These means of communication had suddenly become important. Tom had big business to attend.



The savings that otherwise might have supported him in the home for incurables were used to rent an apartment and buy a car. A young veteran and his wife, both college students, were installed in the apartment rent free in return for taking care of Tom and driving the car. Then the big climax was reached last November, just four months after he left the home for incurables. Tom Wilson took a full-time job in the legal department of a big corporation downtown!

Friends familiar with Tom's comeback call it a "miracle." But he knows that there was nothing miraculous about it. For in the big, noisy ward at N.Y.U.-Bellevue, Tom saw at least a score of other "hopeless" cripples achieve their freedom and independence while he was mastering his own handicap.

Two walls of that enormous room are lined with conventional hospital beds, most of them unoccupied from dawn to dusk. Each patient is out of bed early, learning to walk with crutches or taking his first shuffling steps on a cane. In the therapy rooms hot and cold baths, heat and radiation, massage and exercise, are applied to revitalize limbs, joints and muscles. Advanced patients work out in the gymnasium, and on padded mats people wearing braces or artificial legs learn how to fall without injuring themselves. Before a huge panel that might belong in some display room, crippled arms and hands are taught to turn doorknobs, trip light switches, turn on faucets. The occupational therapy rooms are filled with lathes, workbenches, sewing machines, typewriters, office machines, telephones. Special equipment is frequently hauled in for the person with some unusual occupation.

In the "elevation room" patients practice climbing stairs, crossing streets, stepping up and down curbstones. There is even a real bus, donated by the city. Patients practice climbing aboard, putting a slug in the turnstile, seating themselves or hanging from the straps, and climbing off again. In just one respect does this bus differ from those that lumber through the city streets—the advertisements inside carry such messages as:

"You Can't Disable Ambition!" and "Shoot at the Moon!"

Who are these people? Just average cripples—paralytics, amputees, spastics, victims of almost every type of physical handicap—young, middle-aged and old. Some were in bed or wheelchair for so long that they had forgotten how to help themselves. Others were recent cripples who were on the road back until they fell into the habit patterns of "disability." They all had one thing in common. They had been wheeled or carried into Bellevue helpless and dependent. They left the place under their own power, confident and cheerful, capable of taking care of themselves. Crippled? Sure! Disabled? Not by a long shot! These folks had undergone the "miracle" of rehabilitation, which is no miracle at all.

Rehabilitation is a brand-new medical specialty which offers hope to 97 per cent of America's 23,000,000 crippled and disabled. The treatment includes the teaching of thirty-seven basic skills which must be mastered in order to cope with the commonplaces of daily life. They include opening and closing a door, climbing aboard a bus, dressing and undressing, feeding and bathing oneself, writing and telephoning. Specialized skills come next. These readjust the individual to his old trade, business or profession, or prepare him for a new one to which he will be better adapted. The goal of rehabilitation is a self-supporting job.

Can it be done? It is being done—not only by N.Y.U.-Bellevue in New York but by centers in a dozen cities. And the Baruch Committee on Physical Medicine has completed a detailed plan which will enable any community, large or small, to mobilize its resources for the scientific rehabilitation of its handicapped citizens. Copies of the plan can be obtained by addressing the committee at 597 Madison Avenue, New York 22.

Public Law No. 113, passed in 1943, authorizes the use of federal funds, when matched with state funds, for physical and vocational rehabilitation. The Federal Security Agency reports that during the last fiscal year 60,000 civilians—exclusive of disabled veterans—were restored to self-supporting jobs by this arrangement.

The Federal Office of Vocational Rehabilitation furnished striking proof of this in its study of 43,997 persons rehabilitated by the agency in 1944. Before rehabilitation, 90 per cent of these people were dependent upon public or private funds for support, and the cost to taxpayers ran $300 to $500 *annually* for each case. After rehabilitation the earnings of that group amounted to nearly $78,000,000—an average annual wage of $1768. Yet the cost of transformation averaged only $300 per case—a single rather than annually recurring expense.

Rehabilitation, as a full-fledged specialty, was born under the urgency of war. The sight of so many helplessly crippled and disabled patients discharged from hospitals as "cured" served as a constant reminder to doctors that their job was far from finished. In 1942 the medical chiefs of the armed forces made a stiff resolution: so far as possible, wounded American veterans would be returned to civilian life as completely adjusted, self-supporting citizens, masters of whatever handicaps the war might have forced upon them.

Different doctors approached the task in different ways. At Jefferson Barracks, Mo., the young medical chief, Col. Howard Rusk, and his associates, noticed that soldiers in the convalescent wards suffered more from boredom than from pain or illness. As an experiment, the men were divided into two groups. The first group received conventional treatment—bed rest until they were fit for duty. The second group started doing moderate exercises as soon as they could sit up in bed. As they progressed, the program was stepped up, and by the twelfth day they were topping off their schedule of calisthenics and games with a ten-mile hike. In their wards, aircraft and radio equipment, tools, books and charts were made available, so that the men could continue to study their Air Force specialties. Everyone was kept busy and active while getting well.

The most striking difference was that the men in the second group felt better. Their morale was higher. But the records soon told an even more impressive story. Men in the first group averaged 45 days in the hospital; those in the second group were back on duty within an average of 31 days. About 30 per cent of those in the first group returned to the hospital for further treatment. Only 3 per cent of the second group had relapses. With manpower at a premium in 1942, this "dynamic convalescence" quickly became standard procedure.

When the first wounded men were returned from overseas, Col. Rusk became the chief of the Air Forces' elaborate (*Continued on page* 138)

CONTACT LENSES

PART II by CHARLES SHEARD

THERE are several *mechanical* advantages of contact lenses. There is the riddance of heavy unsightly lenses in the case of high myopia in particular, where the edges of the lenses are thick. The higher the correction in the spectacle lens the greater the edge thickness (for nearsightedness) and the greater the central thickness (for farsightedness). This is all done away with when contact lenses are worn. And again and as important, since the contact lenses are placed directly on the eyes, there are no bridge with pads to fit and cut into the nose and no temples that fit over and around the ears.

There are, *optically* speaking, many scientific properties to recommend contact lenses. In the first place, the lens is placed on the eye and therefore moves with the eye. Hence the eyes can always look through the optical centers of the lenses and the wearer gets rid of the prismatic effects of even the finest and widest angle vision lenses which have ever been produced. Also, there are no rims around lenses and no temples to hold them on the ears, as in ordinary spectacles, to obstruct or obscure the vision. The field of vision remains undistorted and unobstructed. This is of extreme importance in the case of those who need such vision in driving automobiles and as air pilots.

A third very important advantage in contact lenses lies in the fact that the greater the correction for myopia (nearsightedness) the greater the magnifying power. Hence in high amounts of myopia the visual capacity or ability to see is markedly increased and may amount to as much as 40 per cent. We all know that when we look at persons who have myopia of fairly large amount when they are wearing their glasses, their eyes look small and often shrunken. Those same eyes with contact lenses are somewhat enlarged and appear more like the finest of normal eyes. And just the very reverse is, of course, true in the hyperopes, for the ordinary lenses which are thickest at the center and which are worn in such cases and make the eyes look larger than normal can be replaced with contact lenses and normal appearance.

And again, since contact lenses move with the eyes, the aberrations, distortions, prismatic effects, getting out of alignment and adjustment and similar difficulties are avoided. But there is one outstanding superiority of contact lenses that I have not as yet even intimated was in existence; this is the abolition or annulment of the troublesome astigmatic errors, when all the lines in a clock dial or the spokes of a wheel do not seem equally clear or when the page that you are reading seems skewed and may have to be tilted to make it seem square with the world.

The scientific explanation is that nearly all astigmatism, which is unequal curvature in different meridians, exists on the outside or anterior surface of the cornea. The cornea has an index of refraction (which means that there is a known ratio between certain functions of the angle of the light as it strikes a piece of glass, for example, and of the angle of the ray as it is bent in the glass) which is not far different from that of water. So, then, fill the shallow central cup of the contact lens with water, insert it between the lids and in contact with the cornea and, *mirabile dictu*, the inequalities of the corneal surface are annulled and the astigmatism disappears—it just isn't there.

The astigmatism may be very irregular, may have been caused by injury and may be practically impossible of correction by the usual procedures with ordinary spectacle lenses, and yet it is literally washed away with the water portion of the contact lens combination. For it is to be remembered that the optical part of a contact lens consists of an outer thin highly curved shell of plastic (which may be ground to carry a corrective power) and the inner water lens which lies between the inner surface of the plastic shell and the cornea of the eye.

Conical Corneas, Scars And Opacities

Then there is the condition known as keratoconus (conical cornea) or hyperbolic bulging of the cornea, with the apex of the cone generally eccentrically placed. Many persons who have keratoconus can be rendered quite normal in vision. At this point I quote the printed statement of one of the experts in fitting contact lenses: "It has been the writer's joy to see a patient, led into the office for a contact lens fitting, leave the room independent of any help with his contact lenses on his eyes. Cases as bad as this are fortunately very few. The majority retain enough vision to get about, but are unable to read

street signs, car or bus numbers and are more or less helpless as far as near vision is concerned."

Corneal scars and opacities are not infrequent and are very disabling visually and are therefore of much importance. In many of these conditions contact lenses improve vision considerably. There is the case, for example, of the young man 27 years old with only one eye remaining and badly scarred owing to an accident. His vision was so poor that it was necessary for a companion to travel with him wherever he went, to make his purchases, to help him onto cars or busses and to attend him in general. Everything possible had been done by experts in refractive corrections and in making lenses but without any result other than what is known as 5/200 vision. With contact lenses, and a high myopic correction incorporated, this young man's vision rose to 20/40. Perhaps you, as a reader, may not appreciate just what is meant by 5/200 and 20/40 vision or what the difference really amounts to, but I can assure you that a new world was opened up to this young man. He could see that the floor had boards, that faces had eyes full of expression, that pictures had details and that trees had a multiplicity of separate leaves. What a new world! And even more important: he was able to get around and be freed from the necessity of help from others.

Or again, to cite what might be considered as another modern miracle, there is the case of the clergyman, 66 years of age at the time of the tests of which I am to speak, who suffered from an accident when 15 years of age. The best that surgical treatment could do was done but scars and opacities of varying density covered the entire corneas of both eyes. For fifty-two years he could simply tell daylight from darkness; he was aware of an object in front of him but was unable to name it; he could tell one member of the family from another only by recognition of their voices and not of their faces. His distance vision was too low to measure; he had no ability to read anything. The best that could be done had been tried but to no avail. Finally modern contact lenses were tried. As the printed record of the case states:

"The results of this trial were so spectacular as to be almost unbelievable. The visual acuity [or the ability to see details] on the test chart was 20/30 [which really means that the eyes had 90 per cent of good seeing capacity for gross objects] and he was able to read magazine covers at once. He could tell the automobile license plate numbers on cars as they passed, could read signs on and in store windows. At the first sight of his doctor and family he exclaimed: 'I had forgotten human beings looked like that.' This patient was transformed from a dependent person to an independent person as if by magic. The pity is that fifty-two years of his life were clouded by the loss of his vision, when the same transformation might have taken place the year he lost so much of his ability to see. Strangely enough, Fick (a physician in Zurich, Switzerland) used contact lenses to correct the *irregular astigmatism of keratoconus* during the same year, 1888." You ask me: "Why this dramatic result? How could this seemingly magical event occur?" I have italicized the scientific answer: the contact lenses with their fluid cells in intimate touch with the cornea *obliterated or annulled the irregular astigmatism of keratoconus*—and no other agent is known which is capable in suitable cases of producing such marvels.

Mechanical advantages of contact lenses are especially apparent in extreme nearsightedness, where the edges of ordinary glasses are thick.

However, let no reader be under any misconception or have false hopes raised for a relative or friend. Marvelous and dramatic as some of these results are, there is no "as if by magic" if the retina is damaged or irreparably injured. For the retina, which lines the posterior inside surface of the eyeball, is filled with photoreceptors—the cones and the rods—and with the many nerve endings and fibrils which finally are bundled together in the optic nerve. This nerve, in turn, acts as the cable carrying all these fine threads and the messages that travel over them to the brain. If the wires are down there is no voice (*Continued on page* 145)

America's Long Forgotten Children

The Public Schools awaken to the needs of children with heart disease

EVERY year over a million young Americans enter our high schools. For nearly all this is an event. How much greater the thrill for the handicapped boy or girl, who has been uncertain of reaching the goal. Anthony Morelli falls into this group. He has suffered from heart trouble for many years and his road has not been easy. His early school days were marked by a series of stop lights, yet notwithstanding long illness and frequent absences, the lights have finally turned green. Next semester, when he enrolls as a freshman, he will feel that not only has he been promoted but he has won a victory over great odds.

For a long time it was doubtful whether Anthony's ambition would be realized, but he has been fortunate in being a resident of Newark, N.J., which has excellent schools for children with heart trouble and other handicaps. Because of their success they were the subject of a recent survey conducted by Columbia University and they will be used as demonstration centers for work of this type.

Many changes have occurred in the public school system within the last few years, with greater stress on the child as an individual. As education has branched out the schools not only cater to the specific needs of the normal child, but there is a growing trend to make special provision for those whose I.Q. is far above the average, for the blind, the deaf, the epileptic, the socially maladjusted, children who have had infantile paralysis, children with heart trouble and the others who deviate from the normal.

We pride ourselves as a nation on the advantages we offer our young people, second to those of no other country in the world. For this we spend nearly $3,000,000,000 annually. In spite of this and in spite of increased enrollment in special day schools, in residential schools and in classes of special types, only one child in ten who is physically handicapped receives his full quota of regular schooling. Secondary schools have for the most part awakened more slowly to the needs of these exceptional children than have the elementary grades. Therefore these children are more likely to be deprived of educational advantages after they reach their teens than in earlier years.

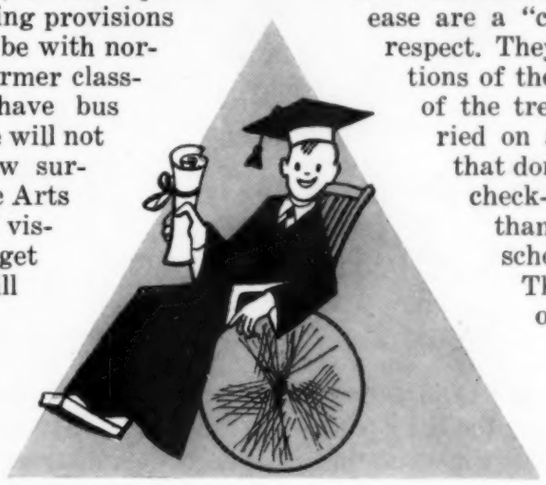
"Cardiacs"—children with heart trouble—have been more neglected in the past than any other group of the afflicted. A recently awakened interest in them is on the increase, but much remains to be done in their behalf. They may well be termed America's long forgotten children.

Although Anthony's record is unusual because of the difficulties he encountered and the gain he made, 90 per cent of the cardiac children at Branch Brook School, which he has attended since he was 7 years old, are able to go through high school and receive their diplomas. Anthony's case is illustrative of the progress that is possible under close supervision, which not only follows him in school but carries through to ferret out and improve home conditions.

Anthony entered Branch Brook School in 1938. He had rheumatic heart disease and was underweight. The first year he had a bad cold which persisted. When he had been absent from school for some time the teachers contacted his home and discovered he was living in cold, damp quarters. A change of residence was advised.

The family moved but rented a place on the third floor of a tenement house, not a good bet for a child with heart disease. The house was noisy and younger brothers and sisters kept the radio going to add to the boy's discomfort. It was only a short time before Anthony had chorea, or St. Vitus's dance. He was ordered to the city hospital at once. On his recovery those in authority again got in touch with the family, advising another move. This time a satisfactory location was managed. Since then Anthony has made a remarkable improvement.

He will go to Arts High School, which cooperates with Branch Brook in making provisions for cardiac pupils. Here he will be with normal boys and girls as well as former classmates. He will be able to have bus transportation, if he needs it. He will not feel like a stranger in his new surroundings, for teachers from the Arts High School make a practice of visiting Branch Brook in order to get acquainted with pupils who will some day come to them.



In the United States today there are from 800,000 to 1,000,000 persons who, like Anthony, suffer from heart disease as a result of rheumatic fever contracted at an early age. Of this number 200,000 are between the ages of 5 and 19. Rheumatic fever is responsible for practically all cardiac disease in children, since only a relatively small proportion have congenital heart conditions. In New York City alone there are between 15,000 and 20,000 crippled children and from 7,000 to 8,000 of them have rheumatic heart disease. Only 5 per cent of the heart cases are congenital.

by SARA H. CARLETON

Because so many heart cases are of rheumatic origin, educating the cardiac child is only a phase of a much bigger problem, that of caring for children with rheumatic fever and controlling the disease. Although many states, counties and cities have gone to great lengths in watching over the physical well being of these children and furnishing instruction and although the federal government has lent a hand in securing medical aid for them, cardiac work is no more than in its infancy.

Education of the cardiac child has long been a controversial subject among educators and health workers, but it is a problem of which the average man is scarcely aware unless the disease has struck in his home. Nearly all states provide for the education of cardiac children to a greater or lesser degree. In many instances children unable to attend school receive home instruction. Others are taught in hospital schools. A great many are placed in cardiac classes in regular schools for children with handicaps. Besides this in certain states there are summer camps or classes that offer educational advantages along with fresh air and sunshine.

Newark's schools for the handicapped include children in many classifications, as the deaf, the blind, the devitalized and others. There are three schools which cater to the needs of cardiacs. Binet classes for retarded children take in those with heart disease who are mentally below par, as well as children with multiple handicaps, usually the result of an injury at birth. The Branch Brook School for the primary and elementary grades includes cardiacs, spastics and orthopedic and diabetic cases. In addition the Arts High School, while it is not primarily a school for the handicapped, provides special facilities for their benefit.

Newark's schools for children with heart disease are a "clicking" organization in every respect. They are unlike any other institutions of their type in the country, because of the tremendous amount of work carried on as routine in comparison with that done elsewhere. Examinations and check-ups are much more frequent than in the general run of such schools.

The schools began in 1937 as an outgrowth of a heart clinic. Dr. Harry Silver, a pediatrician then connected with the Newark school system, recognized the need for isolating cardiac cases and the work was under way. Children who have had rheumatic fever and suffered impairment of the heart are selected from the public schools by physicians and sent to the board of education. Here they have a general physical examination, a flouroscopic examination of the heart, an electrocardiogram and a blood sedimentation test. When the final interpretation is made, the board decides whether the child should be sent to the cardiac school or allowed to continue in regular classes.

The Branch Brook School is unique. It is a building of rose-colored brick, and one corner is partially covered with ivy. Two modern sculptures adorn the exterior. The building presents a striking contrast to others in the neighborhood, where three-decker tenements and small shops predominate.

Children are transported to the school in buses provided by the city. The youngsters dislike this method of transportation and look forward to the day when they can walk to classes. There is a single step at the entrance of the building, so low it is almost on street level. At the rear is a ramp for wheelchair and crutch cases.

Cardiacs comprise 80 per cent of the pupils here. There are 68 rheumatic heart cases and only 9 with congenital heart disease. The children, including other groups, are under the care of from 20 to 24 different doctors, each (*Continued on page* 142)

Mother, Guard Those Baby Teeth

by CHARLES A. LEVINSON

THERE are still a great number of American parents who actually think that the baby teeth are only going to remain a short time, and that it is foolish to spend any time or money on the care of these "milk teeth." Is there any wonder why more than 90 per cent of the American children suffer from dental trouble?

Today the intelligent parent takes as good care of the baby teeth as he would of the permanent teeth, because if the baby teeth are neglected then the permanent suffer, too.

The second set comes in straight or crooked, depending upon the care that is given the baby teeth.

If the baby teeth are lost prematurely the shape of the jawbone may be affected. Decayed baby teeth may affect the child's digestion and general health.

If the baby teeth are very badly decayed, then the permanent ones are apt to become diseased or weakened. A rotten apple in a barrel of good ones can do a lot of damage. So it is with the teeth, especially the first set, when neglected.

The first eight years of a child's life are the most crucial in regard to the safeguarding of the dental structures. Scientists tell us that the enamel in all the teeth except the wisdom teeth is fully formed by the child's eighth year.

When the child has all of his or her baby teeth, which normally erupt between 2 and 2½ years of age, brushing of these precious milk teeth should begin—at least twice a day, morning and night or, even better, after each meal. Don't let food remain on the child's teeth. Damage to the enamel surface by mouth acids and bacteria can take place.

At the age of 2, the child should be taken to the family dentist for a check-up. This check-up should be followed by regular visits to the dentist at least every four months.

The child should get an abundance of milk, vegetables, fruits, toast, bread crust, etc. These supply the necessary minerals and vitamins that are so essential to sound teeth and healthy gums. Cut down on the hard or sticky candies which may leave bits between the teeth to foster the growth of bacteria. Milk chocolate and other sweets more readily dissolved and washed away, preferably eaten after a meal, are better for the child. But make sure the teeth are brushed immediately following the meal, especially if candy or chocolate has been eaten.

If little Johnny or Janie develops cavities in the baby teeth, have the dentist fill them immediately. Don't neglect them. Negligence in dental care at this time is particularly costly. An ounce of prevention is worth a pound of cure; a stitch in time saves nine. These axioms hold so very true in filling pinpoint cavities in baby teeth.

Prevention is the big watchword in dentistry today. So, please, Mother, guard those baby teeth!

by OLIVE LEWIS

The Wife of a Scientist

Behind man's finest achievements there stands not only a very human scientist, but the scientist's wife.

MUCH has been written on the qualities required in the man who wishes to devote himself to scientific research, and on the conditions most favorable for promoting research, but one of the most important factors, really of utmost importance because it affects both spiritual and material spheres, is seldom thought of—the home life of the scientist.

All are agreed that a research worker should have security and freedom from financial worries. Generally speaking a scientist has no interest in money as such and the following story can be quoted as an example of the attitude of the majority. When the late Dr. Walter C. Cannon, professor of physiology at Harvard, was asked what he would do if he had all the money he wanted, he replied:

"But I have all the money I want. My wife gives me ten dollars a month, and with that I pay my car fare, buy my lunches and get my hair cut."

This answer reveals the whole point of this article. Dr. Cannon had all the money he wanted not only because his personal tastes did not require material wealth, but also because his wife saw to it that the money available was sufficient for the family needs. However much a man earns, if his wife cannot administer it properly, he will never be free from financial worries.

To make possible the kind of life indispensable for a research worker, the wife he chooses must be his chief collaborator. To quote again from Dr. Cannon's "The Way of an Investigator":

"When our wedding was announced in the department of physiology, one of the staff quoted regretfully, 'A young man married is a young man marred!' This is a cynical dictum I cannot confirm. Throughout our married life my wife has been my best, my most helpful and most devoted counselor and companion."

Just as a man must possess certain qualities to be a scientific research worker so must a woman have others no less important to enable her to be his wife. In the first place she must be wise and unselfish enough to remember always that her husband's work is a full-time job and that it is the paramount interest of his life. Sometimes he is like a bloodhound on the scent and for days and nights at a time all his thoughts are occupied with certain problems connected with his work. His wife must be able to understand this and not wish to intrude herself or feel neglected. But even while she withdraws herself she must be able to give him the sensation that she is there in the background, smoothing the path of his daily life, ministering to his physical needs so his whole conscious being can be free to devote itself to his work. When he is in this state she must see that his home is peaceful and cheery, so that other problems will not distract him. The moment will come when he needs distraction and then she must be ready with her sympathetic companionship to share in whatever relaxation he desires. Mme. Curie found it quite natural to leave everything aside to accompany her husband, Piere Curie, on a long bicycle tour, in spite of her advanced pregnancy, when he needed a change after solving a difficult problem.

The wife of a scientist must consider herself a "buffer" between him and the world, and the best way to be this is to see that he has a comfortable and agreeable home. If she has her own intellectual pursuits, she will have to learn how to combine them with his so that whenever her husband leaves the laboratory he will come back to a restful and welcoming home with meals ready when he wants them. A scientist cannot always leave his experiments at a definite time so his wife must be able, without annoyance, to change the hour of meals. This does not mean there should not be order in the house—only that the regimen should be elastic and therefore adaptable to circumstances, which is the true basis of order. The wife must not be upset when her husband skips meals, forgets to announce changes in plans or proves himself otherwise absent-minded. Part of her task is to prevent or remedy the consequences of such aberrations; to see, for example, that his clothes are clean and tidy and remind him his hair needs cutting. Jokes are made about the absent-mindedness of the scientist but it is because his mind is so intent on his particular problem of the moment that the ordinary worldly things are eliminated from his consciousness. At these times his wife of necessity must become the "liaison officer" between him and the world.

These are all physical details which most wives worthy of the name find easy to cope with, but the wife of the scientist has to remember there is not

much and never will be much money, for scientific investigation is notoriously underpaid. She must therefore be prepared to make the little there is go a long way by entertaining and dressing in the simplest way possible and doing without luxuries. The life of a scientist can never be a worldly one and so his wife must be content to give up many of the things the wives of more worldly men strive to possess.

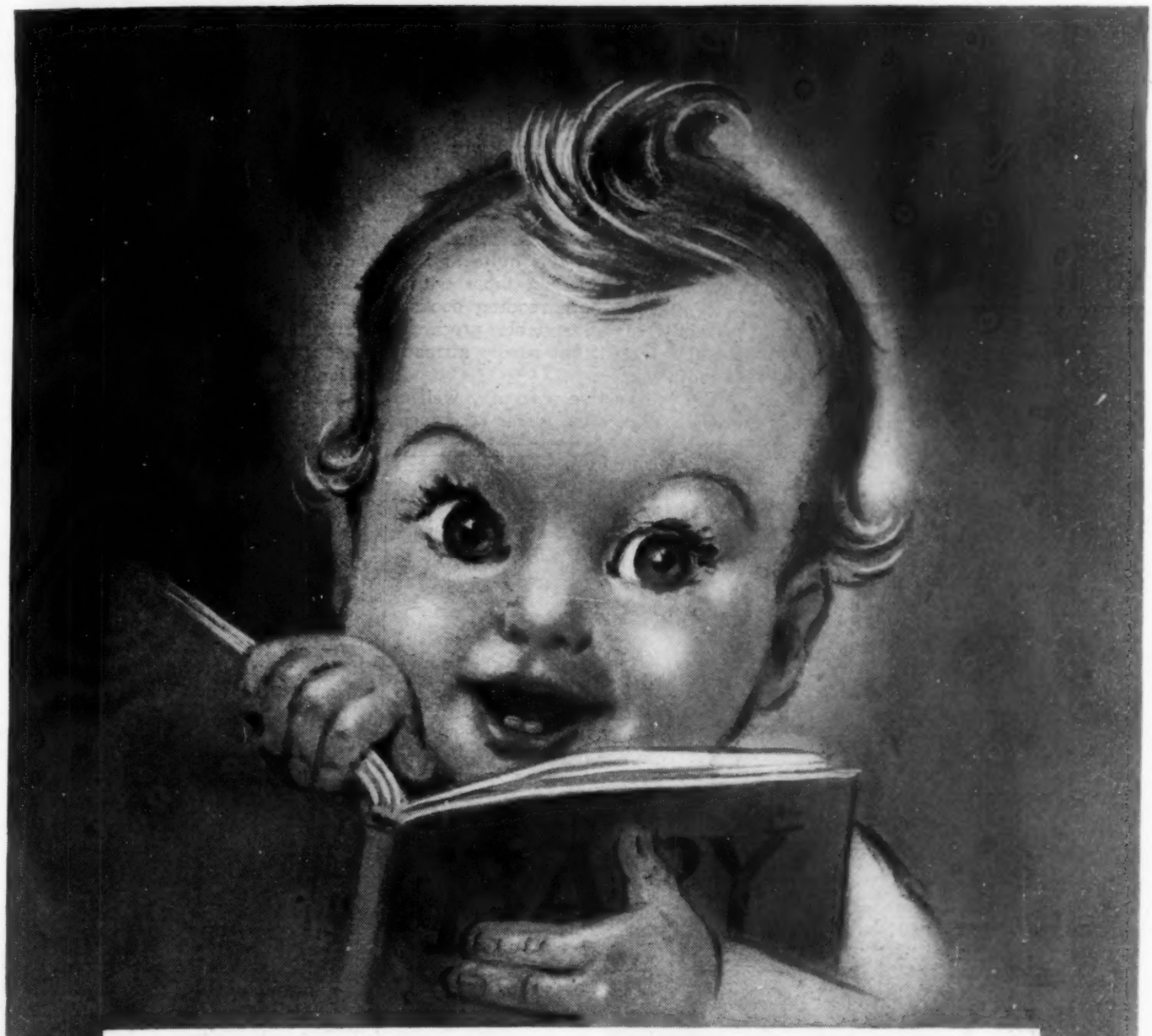
It is in the spiritual sphere that the wife of the scientist has to prove herself a superior woman. She need not necessarily be the intellectual equal of her husband, or even understand his work, but she must be able to take an intelligent interest in it. She must not be utterly bored on the occasions when he is overcome by one of those expansive moods which impel him to unburden himself of some of his theories, or discuss the results and meaning of his experiments, or to read aloud a lecture or scientific article before publication. Often such monologues help to clarify the mind and the wife is proving one of his most efficient collaborators by just listening quietly and with interest—very often her common sense alone will be of the utmost value to him.

When ethical problems are in question her spiritual companionship is most necessary; a man should have the certainty that his wife will always back his most momentous decisions. He may have to make a choice which will influence his whole life and his wife must allow him to feel that whatever he decides is for the best. She may not altogether agree with the expediency of his choice but once it is made she must never reproach him even if it brings new discomforts and new difficulties for her to solve. In this way she will always be his firmest support in maintaining his attitude in the midst of hostility and the bitterness of misunderstanding. In moments of trial a man must be able to feel himself free to do as his conscience dictates. It is then he reveals his character and training, but if he has conflicting loyalties created by a desire to please his wife, it may not be possible to maintain the intellectual integrity that is an absolute essential in the man of science. There is no doubt that on many occasions this will need great patience and devotion. A woman, particularly if she has not had a higher education, often cannot understand certain niceties in ethical problems which arise when the scientific worker is also a teacher subject to the rules and regulations of a university.

Sometimes her husband may seek her counsel and she ought to have enough knowledge of the circumstances of his life and work to be able to help him by frank discussion. There is no reason why she should not have her own point of view, which may be important for him to know while he is going through the process of making up his mind. Whatever the case, the interference of the wife must be discreet and never take the form of bitter opposition.

A scientific worker often has interests and hobbies outside the absorbing interest of his work and there are times when he is able to get right away from the latter; neverthe- (*Continued on page* 126)

A snapshot of the author and her children.



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The Wife of a Scientist

(*Continued from page* 124)

less his usual associates are his colleagues and collaborators. A wife often feels like screaming when apparently little details are talked over innumerable times, but she has to accustom herself to the fact their conversation will generally center round their work and whatever efforts are made to lead it away, it will automatically return.

Vesalius, the fifteenth century Italian anatomist, said that at least an anatomist should not marry as the conditions of his life were such that a delicately bred woman could not possibly share them. To modern minds that outlook seems extreme, but the scientist does seem literally impregnated with his work. He comes from the laboratory smelling of chemicals and anesthetics. He sometimes experiments on himself and even voluntarily inoculates himself with some illness or actually becomes a victim to it. He is careless about his person and neglects things which may seem important to a woman. Mme. Curie and her husband felt quite at home eating at the kitchen table without even a cloth, both reading books; a perfectly understandable proceeding to the scientist, but hardly attractive to most women.

The prospective wife may well ask herself what, then, is her recompense in marrying a scientific worker. It seems she has to sublimate her own life completely to see that he is surrounded by suitable conditions for the progress of his work. She has to administer the little money he earns; see he is properly dressed and fed; provide a pleasant home for his relaxation from work; entertain and not be bored by his friends; bring up his children so they worry him as little as possible and be ready with her companionship and sensible advice whenever he requires it—in short she must be the rock on which he builds the peace and security he needs for his investigations.

Her reward will be that she is the companion of a being she can respect, dedicated to a noble purpose which raises them both above the belittling conditions of most lives, and protects them from those vain things which are the source of so much misery and misfortune. She will be the foremost of her husband's team of helpers; all the work he does, all the discoveries he makes, will have been made possible by her cooperation. His colleagues, his collaborators, the whole world will look upon her with the same esteem and respect they pay him. The same spirit of abnegation, generosity, fidelity and patience, the same moral integrity which has prompted him to choose the path of the research worker, will enable her to fulfill with competency the task of being his wife.

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A GROWING PROBLEM

Undulant fever has become a serious public health problem in the Argentine. Secretary of Public Health Ramón Carrillo told a recent conference in Buenos Aires that one-fourth of the cold storage and slaughterhouse employees in that meat-producing country are infected.

BACKFIRE

A few years ago students who used a common stimulant, then sold over the counter, to "keep going" during examinations or rush week discovered in numbers that, taken long enough, the stuff piled up and backfired in a startling set of mental symptoms—temporary, but sufficiently unpleasant to effect a permanent "cure." In many states the drug is now sold only on prescription, but it is still available in another form as an inhalant. Former Army psychiatrists reported recently in the *Journal of the American Medical Association* that prisoners in a disciplinary barracks found means to convert the inhalant to oral use, and that the practice gave rise to "serious disciplinary, medical and psychiatric problems."

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1. MAKE APPOINTMENT WITH COSMETIC CONSULTANT WHO DISTRIBUTES LUZIER'S SERVICE IN YOUR COMMUNITY.

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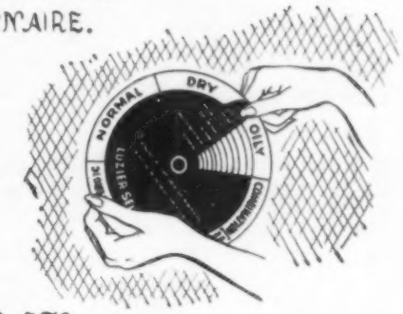

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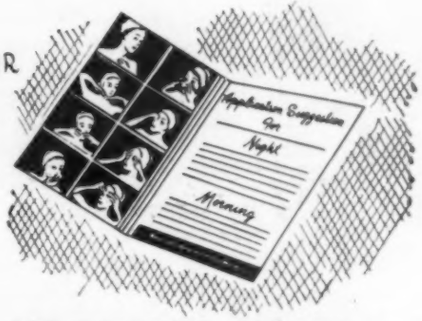

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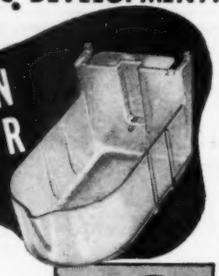

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WELSH

SEE YOUR DEALER OR WRITE · THE FRANK F. TAYLOR CO. CINCINNATI 12, OHIO

Asthma

(*Continued from page 98*)

trachea or windpipe is divided into two parts; these in turn subdivide like the branches of a tree into ever smaller tubes, which terminate finally in air cells of the lungs. In an attack of asthma the small tubes become obstructed so that air moves with difficulty and with a wheezing sound. It is especially hard to expel air from the lungs, because once inhaled it is trapped in the blocked passages. The obstruction is due to (1) spasm of the surrounding muscles, (2) swelling of the lining membrane, and (3) the accumulation of mucus. These factors may be present in varying degrees with a resulting modification of the asthma. Of course, even a normal person, owing to some irritant, such as extremely cold air or ammonia fumes, may have spasm of the muscles surrounding the bronchial tubes. In acute bronchitis, similarly, there may be a tight cough. Such conditions, however, are usually temporary. In the 2 or 3 per cent of the population who become asthmatic the condition tends to recur and to become chronic.

Not only is asthma relatively common but it is one of the oldest troubles known to man. The name itself is Greek and means "panting" or "short-drawn breath." As early as 400 B.C. it was used to describe different types of difficult respiration. The word occurs in Homer's Iliad, though not in a pathologic sense, and was used by Hippocrates and Galen. These ancient observers believed asthma to be caused by "humors, vapors, fluxions or pituita, which irritate the lungs," and their weighty opinions held sway throughout the Middle Ages and beyond. Not until close to 1700 were types of asthma differentiated and described. From them on many theories ran their course, the old standby being that asthma was of "nervous" origin.

In 1850 Dr. Salter entered the field. His remarkable treatise on asthma anticipated an astonishing number of twentieth century findings, such as the importance of foods, pollens and animal danders, though he did not use the word *allergy*. He also recognized the influence of climate, fog, cold and heat, and even the factor of heredity. Unfortunately his very modest book aroused little interest during his lifetime. Only recently has it been resurrected and the significance and thoroughness of his observations appreciated. Dr. Salter was himself a cat-sensitive asthmatic and tells how his skin swelled when a cat scratched him. This was probably the first skin test done on an asthmatic! Indeed, Dr. Salter may be called one of the fathers of skin testing and, indirectly, of the allergic theory of asthma.

Actually, this all-important theory grew out of the death of a guinea pig in the laboratory of the American physiologist, Meltzer, in 1910. He noticed that the lung of the animal, dead of anaphylactic shock, looked like the lung in asthma. The word anaphylaxis, meaning "without protection," had been coined by the famous French physiologist Richet eight years before, to designate the hypersensitiveness artificially induced in animals by the injection of antigens. The phenomenon was not new—as early as 1839 Magendie, another French experimenter, discovered that rabbits injected with egg white died when the injection was repeated—but the application to asthma was new.

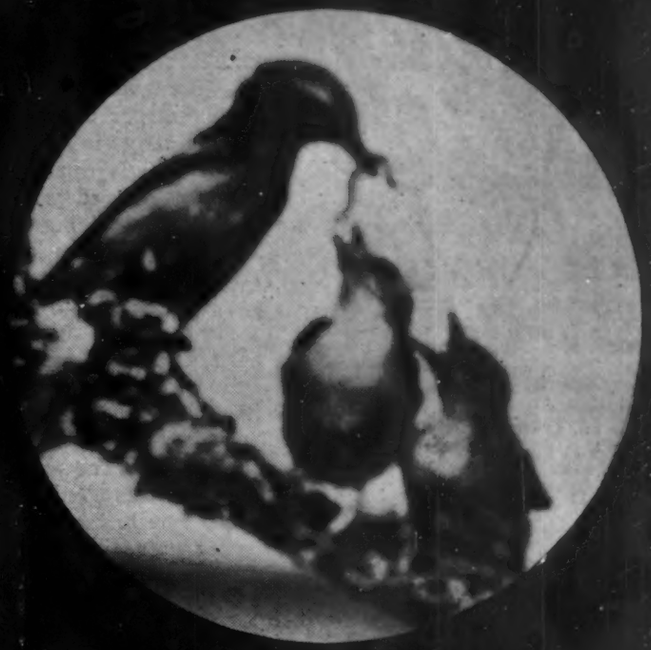
Meltzer's momentous finding became the basis of the present allergic theory and led directly to the art of skin testing. As the theory gained acceptance in the 'twenties it was supposed that a solution to the age-old mystery of the disease had at last been found. Allergy or "strange reaction" was seized upon by doctors and laity alike as the cause of all asthma. The procedure seemed abundantly clear: find out what the patient is sensitive to, then eliminate that thing or desensitize the patient!

Some cases of asthma are brilliantly solved by this method, and a few skin tests should be done on all asthmatics. But the allergic approach does not solve all cases by any means.

Unfortunately, skin testing, perhaps because it seems to offer a clearcut and dramatic solution, holds a fascination for many asthmatics, who wander from clinic to clinic in the vain hope of finding the real cause of their disorder. The modern allergist may have a battery of several hundred vials of specially prepared solutions from which he will inject a minute amount into the skin, or he may use the dry material for scratch tests. But the mere fact that a wheal or swelling results does not prove that the substance in question causes the patient's asthma. The solution may be irritating and thus produce a falsely positive reaction, or the patient may be unduly reactive, or the reaction may be specific but irrelevant. Furthermore, since allergists use differently standardized solutions and interpret the reactions differently, the results of all tests tend to vary. Aside from the pollens and a few other specific antigens, many of the tests themselves, as given, are inherently inaccurate; tests for food allergies are especially variable. Each of several series of tests may thus point to a different verdict in the same case.

(*To be concluded in the March issue of* HYGEIA)

How do you know . . .



you can't see better? . . .

Perhaps your eyes miss a little in everything you look at! The pity of it is that you may not realize it! There is only one way to really know. Have your eyes examined! Even if you wear glasses, time may have made them misfits.

The professional knowledge and skill of the Optometrist and Ophthalmologist and the technical services of the Dispensing Optician are your safeguard against the possible deterioration of your eyesight.

TO SEE BETTER—HAVE YOUR EYES EXAMINED REGULARLY

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Internationally prescribed for light-sensitive eyes

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Get Out and GO!

...BUT TAKE YOUR BABY WITH YOU!

AUT-O-TOT

The Original AUTOMOBILE BABY BOTTLE WARMER

makes it SO easy!

- ★ Keeps baby on feeding Schedule
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Complete $2.95

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Sewed-on tongue can cause irritation

GET TODDLER SHOES WITH SMOOTH ONE-PIECE TONGUE

The sewed-on tongue on infants' shoes is obsolete. It creates a lump which presses on delicate nerves, muscles, blood vessels. Examine WEE WALKER Shoes. *Every* pair (birth to size 8) has tongue and fore-part in one smooth piece. Give your baby this health advantage. Compare WEE WALKERS for accurate shape, flexibility, toe room, instep fullness and heel shape. *Cost much less . . . at stores listed.*

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FREE: Pamphlet, "Look At Your Baby's Feet." Valuable information on foot care, and scale to measure size needed. Dept. H

MORAN SHOE CO., Carlyle, Ill.

Those Unconscious Slips

(*Continued from page 99*)

mother is coming down for the weekend." What she actually wrote was: ". . . my husband's bother!"

Many sport and radio fans recall the ghastly mistake the late Lou Gehrig made during the commercial of his sponsored program. With millions of worshiping American youngsters eagerly listening for their hero's advice, the Yankee ballplayer was asked what cereal he preferred. Instead of giving the name of his sponsor's product, Lou clearly and carefully pronounced the breakfast food of a rival manufacturer! What inner conflict was responsible for that mistake no one knows, but the unforgivable sin was enough to cancel the athlete's contract.

Carrying a certain slip of the tongue or pen to extremes, that is, repeating it over and over again, is common in malignant mental disease. A wealthy manufacturer began to sign his name as Christopher Columbus. When asked his name he would give the same response. It became apparent that he could not conduct his business and his three sons had him certified as mentally ill and took him to a swank sanitorium. Here the self-appointed explorer was quiet and well behaved, and generally conducted himself beyond reproach, save for his one weakness. He enjoyed freedom of the grounds, walked, played golf and mingled with patients and attendants.

His sons, new to the business, found it imperative that they consult their father almost weekly. His business knowledge and commercial acumen stood them in good stead, and at the end of a year, the concern showed a profit of several hundred thousand dollars. The old man began to regard his predicament as illogical. If he could meet the world toe to toe and conduct his business with all of his old-time shrewdness, why must he be confined in a mental institution? And, he told his sons, this business about being Christopher Columbus was sheer poppycock.

The boys, anxious to be free of the mercantile responsibilities and eager to return to their playboy world, were overjoyed at their father's recovery. Their attorney swiftly arranged a hearing before a state Supreme Court justice with a view of having the commitment nullified. When the manufacturer appeared before the jurist the latter questioned him.

"Now, Mr. S—, you know why you are here."

"Yes, your honor."

"Will you please tell me?"

"Well, I had the foolish idea that I was Christopher Columbus . . . I just couldn't stop giving that as my name, or signing it to contracts and checks."

"And are you Christopher Columbus?"

"No, sir! I am, and always have been, William S—!"

The judge was pleased, congratulated Mr. S— on his recovery, and then reminded him that with the court's discharge and nullification of the commitment, it was necessary for Mr. S— to sign a release by which he agreed never to hold the state responsible for his certification as a mentally ill person. Quickly Mr. S— unscrewed his fountain pen and with a flourish wrote: Christopher Columbus!

The annoying part of these slips is the futile attempt at self-analysis. The erring speaker or writer seldom can trace the mistake back to the cause, and usually abandons the project with an irritable shrug and a muttered, "I'll be darned if I know why I said that!" Others, irked by their failure, or inordinately curious, seek the assistance of trained psychoanalysts. A medical colleague recently consulted us because he had addressed a patient of long standing as "Mrs. Charity" when her name—which he knew as well as his own—was "Mrs. Charles." Patient questioning plus the knowledge that the physician and his wife were not too compatible revealed the trivial etiology. For years the doctor and his spouse differed on everything from books, politics, styles and food to vacation spots. We soon found out that a few nights before the couple had argued bitterly over the merits of two radio comedians. The wife tearfully and screamingly championed Jack Benny while her husband bellowed loud his praises of Bob Hope. The verbal battle ended in mutual anger and they retired . . . to separate rooms. The wife's name was Faith, and it was easy to link up the unconscious hunger for a little uxorial charity with the age-old triad of faith, hope and charity.

LEPROSY

A worldwide research attack on the problems of leprosy is under discussion by the Advisory Medical Board of the Leonard Wood Memorial and a group of consulting chemotherapists. In a recent meeting they considered establishing a central coordinating committee under which selected workers in various countries might evaluate the effectiveness of drugs now in use, and the establishment in some suitable institution of a unit with special personnel to make preliminary tests of drugs that appear to be of promise but are not yet in use in this disease. The International Congress of Leprosy is to meet in Havana next April.

Only Livestock Can Provide These Important Medications

Many lifesaving and indispensable medications can be derived only from the animal body.

Insulin for the diabetic, liver preparations to restore the blood in patients suffering from heretofore fatal pernicious anemia, thyroid gland substance, powerful hormones from the pituitary gland—these are but a few of the medications that can only come from livestock.

Vast numbers of cattle, sheep, and hogs are needed—in continuous, uninterrupted flow—to supply America's constantly growing need of these drugs so urgently and so often required to save life and restore health.

Even at peak production of livestock the supply of these essential preparations is barely large enough.

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

ACCEPTED COUNCIL ON FOODS AND NUTRITION AMERICAN MEDICAL ASSOCIATION

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Hartman "SELF ACTION" Swing

Baby swings himself naturally by means of foot-rest, develops leg muscles. With weight off crotch, edge of swing does not bind and stop circulation in legs. "Easy-Back" (circle) lets him lie back to rest.

Look for this label at your dealer.

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A Better Baby Pad

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Yankee Clipper

QUILTED
MATTRESS PROTECTOR PAD

This attractive, long-lasting baby pad saves time and trouble for Mother . . . protects baby's happiness and comfort.

The cotton in the "Yankee Clipper" is absolutely free of all foreign matter. It's 100% pure white bleached, sterilized absorbent cotton, sterilized to a surgical degree of purity before processing. Muslin-enclosed.

This finer pad actually absorbs twelve times its own weight in water! Withstands severe laundering. Comes to you sanitary, ready to use, and protected with cellophane.

Guaranteed by Good Housekeeping

In nine sizes, including full and twin bed sizes.

Also, at your variety store

"Protect Baby's Health"
QUILTED BABY PAD

Tested and Commended by Parents Magazine

If your store cannot supply you, write MONUMENT MFG. CO., Assonet, Mass.

How Well Do We Feed Our Children?

(*Continued from page 95*)

program you can take immediate steps to serve foods rich in nutrients which your children are getting in insufficient quantities.

"You are taking part in a project which may have national significance in proving that mass nutritional surveys, precisely made, can be conducted among the American people generally. The results of this survey may influence the role which government should play in relation to health and education."

A physician asked: "Will you take a blood sample from a child even if the parents object?"

"Definitely not. Prior to the tests approximately 200 'parental consent' cards issued by the New York State Joint Legislative Committee on Nutrition and signed by a local school official will be distributed at each school to be visited. Although the number of consents desired is 150, we feel it is desirable to distribute more to allow for losses, refusals and possible absentees on the day of testing. When the cards are handed out to entire classes, grades seven to ten, with no individual selection whatsoever, the children should be told that they will not be tested unless the consent card, signed by parent or guardian, is returned to the homeroom teacher within a specified time."

A mother asked: "Isn't this government encroachment on the right of parents to bring up their children as they wish?"

"If this nutritional assay is an encroachment on the rights of parents, then so are physical education courses, dental care, medical care and all other health services now rendered by the educational system. The testing of your child is purely voluntary, and will not be done without your consent. You are receiving without obligation or cost valuable information on the nutritional status of your child. If you are interested in his or her health you will certainly want to preserve or improve it."

A school superintendent asked: "Will it be possible for each school to conduct a nutritional survey of its children?"

"Yes, that is possible right now in the same manner that our Committee on Nutrition is conducting this assay, providing that your school can afford the expense. Securing the blood specimens is only a minor part of the survey. The major work is done in a laboratory which must be adequately staffed and equipped to make the analysis. In the present project such analysis is being done at the Public Health Research Institute of the City of New York by staff members and technicians specially trained by Dr. Bessey and Dr. Lowry. There is nothing secret or confidential about the new microchemical tests. In fact, one of the purposes of the present nutritional assay is to encourage and extend their use. The president of the Public Health Research Institute and the vice chairman of its Research Council have revealed that staff members from more than twenty laboratories have visited the Institute to learn to use the microchemical analysis method. In response to requests from hospitals and research centers in all parts of this country and Canada, a short course on microchemical technics in relation to nutrition was held as early as 1945.

"Blood samples can easily be taken by school physicians, nurses, or other trained personnel. If schools, either individually or jointly, can establish properly equipped laboratories, or use facilities already established by contract or agreement, there is no reason why nutrition surveys cannot be made at the pleasure of school officials."

A new excursion into the vast realm of science often has a final destination which is never reached. The microchemical technics of Drs. Bessey and Lowry may not be the final word in nutritional testing, but for the first time they make possible the laboratory determination of the nutritional status of large population groups.

In the near future your child's school report card might read something like this: Arithmetic, Fair; Reading, Good; History, Good; General Science, Good; Spelling, Fair; Nutrition, Excellent. That last mark will be most significant, for health is the greatest asset your child or any child possesses.

WAX CRAYONS

Children frequently pinch or break bits from colored crayons, put them in their mouths and perhaps swallow them, without evident ill effects. But cases of acute poisoning following the eating of wax crayons have recently been reported in three different medical publications. The physician in one case, that of a 28 month old boy who had eaten orange and yellow crayons, said this was considered to be so harmless that it was not reported when the symptoms appeared, or even when the physician first made inquiry on the probability that they indicated poisoning. The physician urged that the use in children's crayons of para red or other coloring matter which, even under special conditions, might be converted in the body to an aniline poison should be discontinued or a warning placed "on the crayons and on the box."

Straight Facts About Heart Disease

(*Continued from page 93*)

genital defects of the heart are being repaired. Children who would have died at an early age after an intolerable childhood may now become, as a result of brilliant surgery, entirely normal. Within the last few years a surgical treatment for high blood pressure has been devised. It is an extensive operation. In many cases the high blood pressure returns, but in the more fortunate patients the blood pressure is permanently lowered; in these cases the operation may be a lifesaving measure.

Since the early recognition of heart disease is the only means of preventing serious, permanent ill effects, proper and early diagnosis is a matter of first importance. A thorough examination by the cardiologist—the heart specialist—together with modern examining technics such as the x-rays, fluoroscope and electrocardiogram and special blood tests, makes the recognition of heart disease possible in its earliest stages.

In this connection it is well to remember that, although any symptoms which make one suspicious of heart disease warrant an immediate and careful examination, they are most often due to other causes. Nor is the presence of a murmur, which causes anxiety to so many mothers, necessarily significant. There are two types of murmurs, the organic murmur associated with heart disease, and the so-called functional murmur, which is found in entirely normal hearts. Only the physician can distinguish between them. Such a distinction must be made before a mother labels her child a "cardiac" and restricts his life and activities.

With ordinary luck your heart should not become a source of difficulty during most of a long life. There is no justification for anxiety about heart disease, although it is increasing in incidence. The human heart is still a sturdy engine. For those who are unfortunate and develop heart disease early in life, and for those who develop heart disease because of age, the outlook is better than it ever was. Our understanding of the heart has increased, new useful drugs have been introduced and more are being discovered, delicate instruments for early diagnosis are available, preventive measures are being developed, surgical procedures for the repair of many types of heart disease have been devised. The weapons are available for the attack on this formidable problem. The future is bright despite the fact that heart disease will continue to increase as the average span of life is lengthened by progress in medicine.

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Prescription for Play

(*Continued from page* 101)

baseball. For those who cannot play on school teams informal play can be arranged. In addition, a full schedule of competition among groups within the school will provide the average boy or girl with a chance to play against others of his own ability. The skilled performance of varsity groups should stimulate wide participation by all of the students on many types and calibers of teams.

In one of our Midwestern cities, there is a citizens' recreation committee made up of representatives of the board of education, park board, board of health and other agencies. This planning group has led the way in developing one of the finest recreation programs in the country. The whole community plays and the program meets the needs of young and old alike. All the people, including the children, have a part in designing it. Activities extend over the entire year. School buildings serve as community centers and continue their usefulness after the close of the school day and during vacations. School children made a careful survey of vacant lots and fields. As a result many have now been converted into useful play areas. "Keep Off the Grass" signs have disappeared from the parks. The community voted to tax itself for development, maintenance and leadership. It was considered an investment in wholesome fun and future fitness.

School physical education can help to build attitudes which will bring about things of this kind. Belief in the value of such programs and the ability to plan them may be developed. This can happen when pupils are allowed to share in planning and carrying out their physical education experiences. Opportunities to promote skilful leadership—and to foster intelligent "followership"—are almost unlimited.

It is hardly necessary to emphasize the necessity for real teaching to achieve the kind of outcome discussed. All these things have to be taught just as mathematics has to be taught. None of them will come about without careful guidance and leadership. But when physical education is wisely administered its intensely absorbing, real life experiences can play a vital role in education.

PASTEURIZATION

Pasteurization of milk and cream used in making cheese is advocated by a contributor to the *American Journal of Public Health*, who says that since 1883 in the United States and Canada there have been 2904 cases and 117 deaths in which the infection was carried by cheese.

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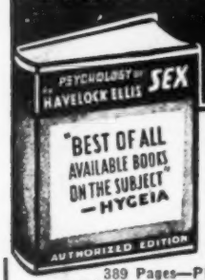

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Leukoplakia of the Mouth

(*Continued from page* 113)

strong caustics (such as silver nitrate) which are insufficient to actually destroy the lesions at a single treatment but are enough to stimulate epithelial growth.

Since the present vogue is to regard all human ills as deficiency diseases, the question of the advisability of using vitamins is inevitable.

That vitamin A will help all or even many cases is extremely doubtful, although its use may seem logical because of its relation to the skin. While a group of competent workers has reported the amelioration of leukoplakia either with yeast alone or yeast given in conjunction with hydrochloric acid, certainly this treatment is not always effective.

Antisyphilitic treatment for those with leukoplakia on the basis of an old syphilitic infection seldom if ever influences the leukoplakia, although it could be administered where indicated on general principles in addition to other measures. Where malignant (or cancerous) change is suspected in leukoplakia of the tongue on the basis of an old syphilitic process, valuable time should not be lost in experimenting with antisyphilitic treatment if this means postponing treatment of suspected cancer.

Leukoplakia of any degree calls for frequent examination because of its possibilities of becoming malignant, and it cannot be denied that many leukoplakic lesions of the oral cavity do become malignant. When cancer develops it is of the prickle or squamous cell variety, especially dangerous not only because it grows at its primary site but also because of its property of metastasizing, or spreading to other parts of the body. But this statement does not mean that every leukoplakic spot becomes malignant, any more than every premedical student becomes a doctor.

Quiescent patches can be removed by relatively simple measures. For this many prefer the light application of the actual cautery, a procedure which can be carried out painlessly after the local injection of procaine. Deep destruction is not required since the disease process is at this stage entirely in the upper layers of the mucosa. Oftentimes treatment results in complete and permanent cure. Relapses may occur, and are especially likely to do so unless tobacco and other irritants are avoided.

The present general trend of opinion is against the use of radium or roentgen rays on the early, innocent-looking patches. Some even feel that radiation may stimulate malignant change.

What has been said applies to the leukoplakia lesions before actual malignant change has taken place.

Any change in the surface, such as heaping-up of epithelium, warty growth or pronounced flaking-off of white particles, may indicate activity and point to the necessity of prompt intervention. This usually takes the form of removal of the affected and immediately adjacent tissue with actual cautery, electrosurgery or scalpel.

Because of the emphasis placed on biopsy—that is, on removing a sample of the tissue for laboratory examination—by many now educating the public on cancer prevention, the patient may feel that the surgeon is overlooking something if biopsy is not done in advance of treatment when malignancy is suspected. However, an excellent authority feels that preliminary biopsy is not advisable and that, when cancer is suspected, the lesions should be completely removed and then subjected to the microscopic study.

Leukoplakia in any degree should result in efforts to cure with simple measures and, when persistent, in frequent examination and prompt action in event of suspicious changes in character.

The outlook is good for those who observe the precautions of avoiding all known causes, reducing the hazards by care of mouth and teeth, reporting for regular check-up and obtaining treatment for early lesions before malignancy develops. Dentists have many opportunities to render great service to their patients by reporting to them the presence of leukoplakic lesions.

STREPTOMYCIN RASH

A skin inflammation on the hands was observed in four of twelve nurses exposed to streptomycin in administering it to patients at a tuberculosis sanatorium, according to two contributors to the *Journal of Investigative Dermatology.*

ANTHRAX FROM IVORY

A case of anthrax traced to elephant tusks handled by the patient, who was employed in the manufacture of piano keys, has been reported in the *Journal of the American Medical Association.*

Anthrax is a disease primarily of animals and especially prevalent in India and the Middle East. In this country it has occurred chiefly as an occupational disease of dock workers and employees in industry using leather, wool, hair or horn.

It has become a rarity with the adoption of requirements for sterilization of imported animal products and modern advancements in treatment, including the use of penicillin.

Get the Vitamins You Pay For

(*Continued from page* 111)

use. Their vitamin content will be higher if they are chilled before opening, and they should not be allowed to stand outside the refrigerator, as heat hastens oxidation.

Alkali destroys several vitamins. Therefore soda should never be used in preparing vegetables. A soda taste in food means vitamins destroyed.

Direct sunlight destroys the B vitamin, riboflavin. This is an additional reason why milk should not be allowed to stand on the doorstep, for the darkness as well as the cold helps to preserve its food value. Canned foods in colorless glass jars should be kept in dark cupboards, which are preferably as cold as possible, to cut down loss of vitamins, especially in long storage before using.

Frequently parts of food which are high in vitamins and also in minerals are removed in manufacture, or thrown away as waste in homes and restaurants. White breads, flours and other cereal products which have been enriched with vitamins and minerals are higher than the unenriched white cereal foods, but they do not contain all the vitamins and minerals naturally present in whole grain bread and other cereal foods. The germ and bran coats which have been removed are concentrated sources of vitamins not found in white cereal foods or toasted breads and breakfast cereals made from refined grains.

Green or yellow color shows the presence of carotene, vitamin A. An example of wasted vitamins and minerals is the practice of cutting off and throwing away the green leaves around cauliflower, the leaves of broccoli and beet and turnip tops, all too common in American households.

Mineral oil used in food or taken near mealtime dissolves the fat-soluble vitamins such as A, D, E, and K. In addition the mineral oil may cause the food to pass through the intestine too quickly for maximum absorption. It should never be used in food preparation, and should be used as a medicine only under medical direction.

We depend on our food for fundamental body structure and maintenance and the maximum health and efficiency possible for every person, young or old. A large part of our incomes must be spent for foods—with small incomes, the largest part. It is both good economics and good health insurance to secure the maximum nutritional value from the food we buy at such high cost.

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Where What's Left Works Wonders

(*Continued from page* 117)

convalescent training program. The job now was twofold: to retrain the battle fatigued and less seriously wounded men for return to military duty; to prepare the disabled veteran for a well-adjusted, self-reliant return to civilian life.

AAF convalescent centers became cheerful, busy places where the men were enthusiastically occupied in building futures rather than dwelling moodily on the past. To meet the needs of the new program, doctors had to devise new technics or dust off long-neglected medical knowledge. Armless or legless men needed new and better artificial limbs; more important, they had to be taught how to use them effectively. Muscles in some part of the body had to be taught to do the work of other muscles that had been destroyed. In the language of the veterans' hospitals, it became a matter of "taking what's left and making the most of it."

Wounded men had the heartening discovery that "what's left" of the human body after it has been ravaged by injury or disease is usually plenty. Every one of us normally goes through life utilizing about 10 per cent of his physical resources. Only in emergencies do we draw upon our hidden reserves. Just as we can get along with one lung or half a kidney, so can the muscles of the body, by enlargement and substitution, adapt themselves to new demands.

To make the most of "what's left" the doctors turned to a long-neglected medical specialty—physical medicine. This branch of medicine employs such physical agents as heat, cold, water, electricity, radiation and massage to treat and strengthen the human body. In 1943, elder statesman Bernard Baruch organized and endowed the Baruch Committee for Physical Medicine as a memorial to his father, Dr. Simon Baruch, Confederate army surgeon and a pioneer in the field of physical medicine. Baruch's orders to the committee were simple: produce more physicians who will teach and practice physical medicine; speed up and extend clinical research; have more trained doctors and better technics ready in time to benefit the wounded veterans of World War II. Grants from the Baruch Committee started or expanded departments of physical medicine in a dozen medical schools.

Col. Howard Rusk's AAF convalescent centers again did the notable pioneering job. Using physical medicine as a basis, they added psychosocial guidance, vocational training and job counseling to round out a still more comprehensive specialty, rehabilitation. They worked to produce a "whole man" who could return to civilian life and shoulder his own responsibilities in the community.

As a result of the work done by Air Force, Army, Navy and Veterans' Administration hospitals, the "rehabilitated" veteran took the civilian public by surprise. People who had been prepared to lavish pity on the disabled G.I. soon learned that this independent soul merited their admiration instead. Whether he walked on artificial legs, rolled along in a wheelchair or used strange metal hooks for hands, he was obviously master of the situation. He was an entirely new kind of "handicapped" person.

Nor was this rebuilding of complete men limited to the wounded of World War II. The Veterans' Administration reached back into the past and made a dramatic demonstration of rehabilitation's possibilities. For instance, in the Minneapolis veterans' hospital at the end of 1945 there was a group of 110 veterans of World War I. All were between the ages of 50 and 60; all were chronic invalids and bedridden; some had been flat on their backs for ten years. Less than a year after the rehabilitation program had gone into full swing, 25 of these 110 men were discharged and working at full-time jobs; 30 more were back home and doing part-time work; 40 were ready to leave the hospital and had prospects of employment; 5 were assured of eventual discharge and rehabilitation. That score gave all VA hospitals a mark to shoot at: 100 out of 110 "forgotten men" restored to happy, useful living.

Could the same thing be done for crippled and disabled civilians?

The civilian problem is far more acute than that of war casualties. There are about 23,000,000 physically handicapped men, women and children in the United States, some 6,500,000 of them males of an age when they normally would be income producers. Each year 350,000 persons are permanently disabled by accidents alone. Crippling diseases bring the annual total nearer to 800,000. Amputations run between 30,000 and 70,000 annually, whereas the combined armed services performed only 17,000 amputations in the years 1941-45!

Dr. Howard Rusk, for one, was convinced that civilian rehabilitation was not only practical but imperative. So instead of returning to practice when he left the AAF in 1945, he became chairman of the Baruch Committee's subcommittee on civilian rehabilitation centers. Then early in 1947 he got the opportunity he was looking for: New York University Medical College made him the world's first professor

of rehabilitation and physical medicine.

As assistant to Rusk, N.Y.U. summoned Dr. George Deaver, pioneer rehabilitation physician who had trained hundreds of specialists for the armed forces. One whole floor of the huge, city-owned Bellevue Hospital was transformed into a full-scale rehabilitation center—the first in any general hospital. Even this was only a beginning. Because Bellevue is a municipal institution, only residents of New York City are eligible for admission. To accommodate out-of-towners, the Milbank Memorial Fund donated additional temporary quarters on New York's East Side. Funds are now being raised for erection of a new Institute of Rehabilitation in the N.Y.U.-Bellevue Medical Center, adjoining the United Nations.

Even with its new building, however, the Institute for Rehabilitation will accommodate only a fraction of the handicapped New Yorkers who need help. Already Columbia's College of Physicians and Surgeons has joined forces with the Institute for Crippled and Disabled to provide the city with another modern rehabilitation center. Still other centers are being started elsewhere—in Cleveland, Milwaukee, Boston, San Francisco and Bridgeport, to name a few.

It is a small beginning compared to the national need. But with the eventual establishment of a rehabilitation center in every community it is entirely possible that the day of the dependent cripple in America will be ended.

SPREADING KNOWLEDGE

The World Health Organization announces that 200 fellowships will be granted this year to physicians, nurses and other qualified workers in public health. Last year 192 obtained fellowships, and 48 came to this country for study. Fellows are nominated by their own governments. Last year, 54 WHO fellows came from Poland, 39 from China and 35 from Yugoslavia. This is in line with the WHO Interim Commission program to foster worldwide dissemination of medical progress and to aid in rehabilitating public health in those countries ravaged most by war.

CARTILAGE "BANK"

Cartilage or gristle preserved as long as two years has been used in plastic surgery about the eye in seventeen cases, with several advantages over the use of fresh cartilage taken from the patient at the time of operation, reports a contributor to *Archives of Ophthalmology.*

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Are There Too Many People?

(*Continued from page* 115)

now almost run its course. The United States population is approaching a level where it will probably remain static.

In the last 140 years, the peoples of the world have more than doubled. For every square mile of land, there now is an average of 41 persons. Since a large proportion of the land throughout the world is barren and unoccupied, it is obvious that certain areas must have many more persons than this residing in each square mile. Europe and Asia are almost five times as densely occupied as the nations of the Western Hemisphere. The United States has a density of 43 persons per square mile, or approximately equivalent to the average for the entire world.

The density of populous Europe and Asia is even more in evidence if one subtracts the tremendous domain of the United Soviet Republics. A sixth of all the land on earth lies within the boundaries of the USSR, whereas only one thirteenth of the population of the world is theirs. The density of the Russian population, which numbers in the neighborhood of 170 millions, is only half that of the United States—about 21 persons per square mile.

Densely inhabited areas are called areas of "population pressure"; in other words, areas in which the density of population presses on the means of subsistence. Population pressure arises when the growth in the population of a country is occurring more rapidly than the development of its productive resources. The standard of living of the people in such areas falls and they find it increasingly difficult to get the necessities of life.

In the United States and Canada, the standards of living are the highest in the world. In these countries, the ability to produce the goods needed has far exceeded the growth in population. To a lesser degree, this is true of Australia, New Zealand and the countries of Northern and Western Europe. Since the birth rates and death rates of these countries are coming more or less into balance, there is little danger of a lowered standard of living in them, except for the threat that arises from areas of great population pressures.

Most of the countries of great population pressure, particularly India, China, Japan, and the East Indies, are areas which are still relatively nonindustrialized with low standards of living. Yet it is these areas, in which the problems of developing an industrial system in the near future are almost insurmountable, that need the benefits of industrialization desperately.

What do these facts mean to the future of mankind? What do they mean to the citizen of the United States?

First of all, let us recognize clearly that the sciences of medicine, nutrition and health must be brought to all nations of the world because the health levels of all nations directly affect those of each nation. Because of the intermingling of people and the facilities of rapid transportation, epidemic and contagious diseases no longer can be effectively controlled simply by cutting the lines of communication of disease between nations.

The sources of disease must be sought out and eradicated. Undernourished bodies must be built up to become disease-resistant. The World Health Organization and the Food and Agriculture Organization are now being created to cope with these problems.

But if good health and sufficient food are introduced into areas now teeming with people, such as parts of Europe, India, China, Japan, and the East Indies, the existing birth rate cannot be expected to begin to drop as soon as the death rates balancing the existing high birth rates will be unleashed. Already vast, they will double, treble, and quadruple within a few decades—unless they die from war, or migrate to less populous areas of the world.

Even if science aids the people of these areas and increases the yield of food per acre of land and the production of the goods needed for living purposes, the surpluses will be more than used up by the extra mouths to feed and the additional bodies to clothe and house.

The only great country that has surpluses now to help these starving, struggling millions is the United States of America and, to a lesser degree, some of its Latin-American neighbor nations. Already there is grumbling among some United States citizens. "How long must we go on giving up our meat, our grain, and our fabrics so as to feed and clothe the unfortunates in other parts of the world?" "When will this drain on our resources stop?" We are a humanitarian nation, but our resources are finite.

If we do not continue to feed these increasing populations, they will eventually try to migrate in massive numbers. Blocked off and hemmed in on every side as they are, warfare is certain to result. The hope of survival of the Western nations from such conflict would depend largely upon their superior industrialization which provides the weapons of war.

The real answer, however, will come only when it is possible for the

birth rate to be controlled even as the death rate is controlled. If the death rates are not changed, birth rates do not need to change. If death rates are lowered, this must be accompanied by lowered birth rates or the total population will increase.

Science has lowered the death rate. Can it now control the birth rate?

There is the rub! To control the birth rate runs counter to deep beliefs. Yet, if we do not do so, populations will increase, or death rates must be allowed to take their toll without check.

The solution of this problem is fundamental for the elimination of war. It is a prerequisite for the establishment of the Four Freedoms throughout the world.

The United Nations has taken a first step by establishing a Population Commission to study the problem and come to grips with the facts. The Commission will not have an easy time. The task is staggering in size and complexity. Almost every path the Commission will wish to propose is likely to be barricaded by prejudice, special interest, and social taboo.

Yet in one way or another, the intelligence of humanity must face squarely the dilemma of increasing worldwide population pressures and establish control policies. Otherwise, a host of human locusts will destroy the resources of the earth which support it.

OVERACTIVE THYROID

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Childhood diseases of the gums are a major cause of the loss of teeth by adults, according to a contributor to the *Journal of the American Dental Association.* A number of systemic diseases as well as local conditions of the mouth may affect the supporting tissues of the teeth in childhood and eventually cause the loss of teeth. Citing that one man in five at military age requires artificial dentures, the dentist wrote that probably, of the millions of teeth lost by these men, a majority had been removed as a result of disease of the supporting tissues and frequently this disease had originated in childhood. He urged that an active program to prevent these conditions as well as dental caries or decay be adopted on a nationwide scale.

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(*Continued from page* 97)

develop their skill not only in the use of the bronchoscope but in the performance of corneal transplants whereby the blind may see again, operations on the large arteries whereby children born with abnormalities of the heart may live, operations on nerves whereby wounded veterans may regain the use of paralyzed muscles, and operations on the lungs by which death from cancer or from bronchial dilatation may be prevented. These and other advances in surgery were developed in this country rather than in England because medical science here has not been crippled.

British medical scientists were unable to investigate shock and to develop means for its prevention and treatment. American investigators took the lead in these matters; as a result the causes, mechanism and complications of shock were explained, effective means for its treatment were developed and the lives of thousands of wounded men were saved. Yet with brazen effrontery the antivivisectionists assert that experiments on animals have added nothing to human knowledge!

Medical scientists without test animals are as helpless as chemists without test tubes. As stated by James B. Conant, President of Harvard University, "It is impossible to teach medicine or to accomplish advances in medicine, lacking animal experimentation."

America's Long Forgotten Children

(*Continued from page* 121)

having his own physician, in addition to the service provided by the school.

There is a matron in charge of the school. There is a head teacher, a nurse, five classroom teachers, two orthopedic and physical education teachers, besides teachers in art, music, cooking and manual training. Qualifications for teaching at the school have always included a bachelor's degree in arts or sciences, with a major in education, besides additional courses in psychology. Although it is difficult to get teachers, New Jersey is broadening its basic requirements in this field. It has been recommended that an entirely new curriculum be introduced at Newark State Teachers College, and that it include courses in educational and vocational guidance for the handicapped, psychology of the subnormal and the abnormal, anatomy, physiology, occupational therapy and mental hygiene. A director of special education has been appointed to have charge of this program.

In the past there has been a lack of uniformity governing the requirements for teaching handicapped children in the various categories. Newark plans to solve the difficulty by making the courses so inclusive that those who receive the certificates will be qualified to deal with all types of atypical children. Very few states have adopted this policy to date.

After the cardiac children go through the initial examination and are admitted to the Branch Brook School, they are sent back to the board of education for a thorough check-up once a year. A physician visits the school once a month to make periodic examinations. The school takes only severe rheumatic cardiacs, but cases in which the disease is inactive. Those who are excluded are hospitalized. Each child is rated as an A, B, C or D case according to standards established by the American Heart Association. The letter indicates the physical status of the child and the amount of activity of which he is capable. A general history of each child, record of all clinic visits, posture sheet, social service record, monthly weight chart and analysis sheet are filled out and given to teachers in the individual classes. In short every detail is considered.

Visitors from neighboring towns and cities frequently come to the school on observation tours. Usually they are members of parent-teacher groups or teachers of the physically handicapped. Curiously enough, when they arrive none of them have any idea of the scope of the work. If the city water department installs a new hydrant the public hears about it, but the activities carried on in such schools as Branch Brook remain unhonored and unsung.

The program adopted by the school not only prolongs life but makes for a happier existence. Taking their cue from the teachers, the children show a spirit of cooperation. The "orthopedics" or crippled children are eager to help the cardiacs and the cardiacs the orthopedics. The children are not embarrassed when visitors arrive, for early in their school life they are taught not to be self-conscious.

Classrooms and rest rooms at the school are attractively decorated in rose and gray. In addition to gay paintings that adorn the walls, there are samples of plastic work and a case of glazed statuettes modeled by the pupils. In the five classrooms the seats are adjustable, so the children

can sit at ease at their desks. The remainder of the building is given over to an auditorium, a gymnasium, a dining room, a combined music room and library, sewing and cooking rooms and a manual training room and reading rooms.

Lunch hour is a high spot in the day's routine. Tables seat four and each place is numbered not only to enable the children to find their seats but as a guide in serving. At some places taller glasses signify that the children who sit there require more milk than those who have smaller glasses. Cod liver oil is served at some places.

Overweight children have fruit for dessert. Others have custards. Diabetics have their special diet and so are taught what to eat at home and when dining in restaurants. All children soon adapt themselves to the regimen.

When school started cardiacs were much restricted. They spent the greater part of the day lying on deck chairs and were not allowed to play even quiet games. As time went on the teachers prevailed on the doctor in charge to give them a wider range of activity. Results were favorable not only from a physical but from a psychologic standpoint. The more freedom the children were permitted the greater was the improvement. While the cardiacs still get adequate rest periods, they engage in many recreational activities that once would have been taboo.

Rhythm and posture are taught in gymnasium classes. There is a walled-in playground outside the building. A small group of cardiacs play handball, soccer and baseball for carefully limited periods. Whether a child is permitted to engage in these more strenuous activities depends on his physical condition as determined by the doctor. Some who are not able to go in for baseball enjoy taking care of the school's rose garden.

The work at Branch Brook School requires time and patience, but teachers are enthusiastic and feel amply repaid in watching the progress of those entrusted to them. In many of the orthopedic cases muscles long disused are made to function again. Cardiacs, who had a poor start in life, gain in strength and vitality. If they have recurrences of the disease, they are sent home, but may be readmitted later. When recurrences cease for a period of one and a half to two years, the children are transferred to regular schools.

The question often arises as to the limitations of cardiac children in later life. It is impossible to say how much they will be incapacitated. This depends on the amount of damage done to the heart. Recurrences are the rule rather than the exception in rheumatic fever and each time there are recurrences the heart is the more impaired.

It is estimated that there are about 40,000 deaths annually from rheumatic heart diseases, with 30 the average age at death. As Newark schools are less than 10 years old there has not been sufficient time to trace the full course of the lives of former pupils. Necessarily some will be much more limited than others.

While competitive sports are not generally advised, the majority can safely go in for golf, horseback riding and swimming. Some will go on to college and enter the professions. Records elsewhere show that those who have had rheumatic heart disease are able to fill a great variety of posts. The list of occupations includes dental technician, librarian, reporter, soldier, window decorator, shipping clerk, barber, file clerk, purchasing agent, cab driver and others.

All pupils at Branch Brook School have an I.Q. of 80 or over. In order to keep up to the standard of pupils in regular schools despite necessarily frequent absences, the children have been making up their time at an open air school. Before the war Branch Brook ran on a full-year basis. This policy will soon be resumed.

While Newark's schools are run in accordance with the latest theories of special education, some authorities do not agree that cardiacs should be segregated. In New York City the board of education has conducted the most extensive survey of the physically handicapped ever undertaken. The study included 12,000 pupils in school as well as 1,400 who were receiving home instruction and 1,700 in hospitals and convalescent homes. It was decided that special classes for cardiac children were often poorly organized and had not demonstrated their necessity during the twenty years of their existence.

It was recommended that competent doctors be added to the cardiac classification service. With more effective medical and nursing supervision in the regular schools, it was felt that cardiacs in A, B and C classifications would be better off among normal boys and girls than in special classes. Provision for adequate home and hospital teaching was advised for those in D and E classifications. Authorities believed that children in special classes tended to become dependent and more conscious of their disability than they would be if they attended regular schools and that such qualities produced a lack of initiative and aggressiveness.

The state of Iowa made a survey in 1945. Sixty-two cities with a population of 4,000 or over were covered.

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Twenty-four reported an active program. Fourteen provided for the needs of these children by using ungraded or "opportunity" rooms in regular elementary schools. Some of the larger cities had special schools, which included cardiacs. Three reported continuation schools, which were running only half a day. Equipment used was usually very meager.

In Pennsylvania public schools cardiacs as a rule are placed in classes for the physically delicate. These include tuberculous and malnourished children. There are very few classes in which all children are cardiacs. Heart House, a convalescent home in Valencia opened in June, 1940, conducts a school organized under the Pittsburgh board of education. At present thirty-five children from 4 to 12 years of age are in this home. Some are able to attend classes. Others have bedside instruction. The same promotions hold as in the public schools.

Since 1924 cardiac cases have been included in the Jesse Spalding School of Chicago, one of several special schools fitted to the needs of the handicapped. A school physician, appointed by the Chicago Heart Association, examines all applicants and reserves the right to deny admission to noncardiacs or those who are able to carry regular school duties without difficulty.

This school has full-time nursing supervision and such facilities as ramps and elevators. A swimming pool is provided. Classes meet the Illinois educational requirements of a standard elementary or high school. The average stay here is two and a half years and the majority of former pupils are living and well.

Boston has no special schools nor classes for cardiacs but, in common with most of the towns in Massachusetts, maintains a large staff of home teachers for those who are unable to attend regular schools. The state law requires that any child unable to attend school is eligible for such service. Quincy is an exception to the general rule and has a classroom with motor service, rest periods and a hot lunch at noon.

The House of the Good Samaritan in Boston and the Sharon Sanatorium in Sharon both care especially for patients with rheumatic fever. Both conduct classes for their patients. The Boston school board supplies three teachers for the House of the Good Samaritan, one each for the primary, elementary and grammar grades. The state supplies a high school teacher. Music is taught by a volunteer group and art is covered by an instructor from the Boston Art School.

The New England Heart Association for a number of years conducted a summer school, first in the examining rooms of its clinic, then at Radcliffe College, later at Buckingham School in Cambridge, for children failing in one or more subjects because of illness.

The school, which was conducted along progressive lines, was organized not only to help the children academically but to help orient them to classroom work. Unfortunately this school was discontinued at the beginning of the war.

Although the federal government since 1940 has aided various states in helping children with rheumatic fever to secure the medical, clinical and hospital care they require, it makes no provision for their education. Liberal school boards in some states have extended their services for the physically handicapped. In other states, particularly in the rural areas, both medical and educational facilities are inadequate.

Cardiac disease is an internal condition. Its symptoms are obscure. These children show few, if any, signs of their disability. They are in a group between the devitalized and the orthopedic and have been called "the cripples who do not limp." Because of this variation there has been a difference of opinion as to how they should be grouped in the school program, with the result there is no standard of classification.

Cardiacs were originally placed in fresh air camps with tuberculous children. The first camp in this country was established in Providence, R.I., in 1908. Established primarily for the tuberculous, they later fell into disfavor with the National Tuberculosis Association, which had been their principal sponsor. Schools properly ventilated or air conditioned are considered to give all the air that is necessary and afford better opportunity for formal teaching and physical therapy.

When special classes were initiated cardiacs were grouped with those of lowered vitality and still are in many instances. More often they are classified with orthopedics. In many cases they are entirely left out, probably because their limitations are not so evident as those of children who cannot walk or whose arms are paralyzed. They do not bear placards that proclaim their condition!

Those who favor placing cardiacs in special schools or classes hold that they receive better attention in smaller groups and are happier among children of their kind. Also in regular classes the normal children are likely to regard them as "poor sports" when they do not take part in the more strenuous activities.

As shown in the Newark schools, cardiac children respond to treatment.

Their mental capacity is equal to that of normal children, even if their strength is less. They should be encouraged to go to college, since the work of the unskilled and uneducated is laborious. If this is not possible, they should have vocational guidance in selecting work to meet their strength.

Whatever the trend of special education and whatever methods may replace those which now prevail, the problem of the cardiacs has begun to win wider recognition than in the past. Newspapers today are filled with obituaries of individuals stricken with heart disease. In some of these cases there may have been early attacks of rheumatic fever which escaped notice or, if recognized, did not get proper attention. Rheumatic fever is responsible for the greatest percentage of heart trouble in children and rates as the chief cause of heart disease in later life. The appalling number of deaths from heart ailments demands a closer study of their cause.

HURRICANE!

The modern hurricane warning service developed by the U.S. Weather Bureau, smoothly functioning organization and the sturdy buildings erected after the catastrophic 1928 hurricane probably saved thousands of lives when a 140-mile-an-hour wind struck Florida last September, an article in the *Red Cross Courier* shows. Before the storm roared in from the Carribean 75,000 persons on the Florida east coast had been safely housed by the Red Cross in schools, churches, courthouses, hotels, Army barracks and other buildings—which had been inspected for safety and sanitation and designated in advance in chapter preparedness plans.

Amateur radio operators were frequently the only means of getting emergency messages through as the hurricane swept through the four-state Gulf area. In the New Orleans area, the National Guard turned Jackson Barracks over to the Red Cross to shelter hundreds of refugees. Medical facilities were established at the barracks with the cooperation of the Orleans Parish Medical Society. Physicians and nurses were on duty round the clock. The refugees included fifty infants.

In Florida, 8,000 residents of the Lake Okeechobee farm area were evacuated to Red Cross shelters twenty-four hours ahead of the storm; in that area in 1928, 1,800 lives were lost.

Coming in Hygeia

Congestion, a Big City Disease

By Richard Fletcher

Contact Lenses

(*Continued from page 119*)

over the telephone and no dash-dot-dash over the telegraph. In other words, it is a dead system. This is equally true in the case of the fine nerve connections through to the brain; if the retina and the optic nerve are severely damaged, the visual system is dead and there are no messages. But if the *posterior* retinal receptor and nerve transmission systems are in good order, then contact lenses may work wonders in overcoming the corneal or *anterior* defects.

For Our Emotional Selves

After all is said and done, each of us likes and desires to appear at his or her best. Our weaknesses are our sensitive points; some of us may magnify them unduly and may become abnormal reactors. To use an often quoted and more often misused word, the "psychology" of those with eye disorders frequently is very definitely present and exhibits itself as a fear of going blind, a serious feeling of inferiority and a repugnance to wearing conspicuous glasses, so much so that folks in such conditions would rather grope their way around than wear their lenses. Many a pair of contact lenses has served to rehabilitate a patient, to reinstill confidence into him and to cause him to resume a useful occupation and reacquire a reasonably sane and normal outlook on life. Again it is possible that this service has been nothing more than a release mechanism, a relief from a feeling of inferiority and a normal support to a normal vanity and a desire to appear as handsome and good-looking as possible. For, seated in the back of the mind of many a really lovely young lady—especially if she is highly myopic and therefore sees how small and unattractive her eyes look as she peers into the mirror and views herself through her ordinary glasses—rests the slangy jibe of Dorothy Parker:

Men seldom make passes
At girls who wear glasses.

For Ordinary Folks and Everyday Use

We ordinary folks can, if we so desire, throw away our ordinary "specs" that correct our hyperopia, myopia, and astigmatism and can substitute for them well made and properly fitted contact lenses and, with a little patience and some possible trial and error procedures in getting the proper so-called pH (alkalinity) of the buffer solution that makes up the water part of the contact lens combination, we can go about our work with our glasses tucked under our eyelids in-

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stead of in front of them. Then it will be possible to enjoy all of the many advantages of contact lenses and to get rid of many of the nuisances of our common spectacles such as weight, adjustment on the face, breakage and steaming up when we come from the cold outdoors into our heated homes and offices.

And we may well pause for a few minutes and consider the extraordinary or out of the ordinary folks and why they need and use contact lenses. Actors and actresses must of necessity have good vision without the detracting appearance of spectacles. Also modern spectacle frames cannot be worn in a portrayal of the fifties or the gay nineties, for modern types didn't exist in those days.

Correction of vision with contact lenses is ideal for aviators. Such lenses render more or less unnecessary goggles of any type other than some special requirement of color for the purpose of absorbing or toning down bright light. Since contact lenses move with the eyes they provide normal unimpaired fields of vision and do not steam up when worn under regulation goggles. Chauffeurs and motorists in general find such lenses advantageous for the same reasons as aviators. Also, these lenses serve as a protection to the eyes in case of accident. Authentic cases are on record showing that contact lenses have saved the driver's eyesight by protecting the delicate cornea when the brow, lids and cheek have been lacerated.

Dentists, chemists, microscopists, mining engineers, ships' officers, surgeons and many other men and women of the professional or business worlds are wearing contact lenses. A moment's consideration will indicate why. Such lenses keep foreign bodies, whether they be fumes, liquids, particles or solids, from impinging on the cornea and the front surface of the eyeball in general.

In Sports And Outdoor Activities

I am naming our sports and pastimes in alphabetical order and shall comment on some of them: baseball, basketball, boating, diving, football, golf, hunting, lacrosse, mountain climbing, polo, skiing, sleighing (bobsledding), squash, swimming, tennis and badminton, and trap-shooting. Quite an array of sports, both indoors and outdoors, and quite a coverage when one states that many of these games cannot be carried on successfully or even safely unless contact lenses are worn and replace the ordinary spectacle lenses and frames which, in many instances, would be a hazard instead of an aid.

With reference to taking part in such sports, either as experts or just for the fun of the thing, it can be stated that one who is nearsighted and cannot see in detail and with certainty much beyond the end of his nose is practically barred from satisfactory participation unless contact lenses are worn. The stress is great enough and the speed demanded even greater, so that the athlete must have every faculty and every bit of his skill at his command. His vision is a mighty important factor, to say the least.

Take the baseball player. Spectacle lenses are a hazard. The most obvious dangers are sliding to base, the flying baseball and reflections from the glasses when the player is facing the sun and catching a fly ball, especially when the sun is low in the sky.

For the golfer, however, it is agreed from experience that contact lenses are generally a convenience rather than a necessity. But many men take their golf far more seriously than some of them take their religion; therefore a normal, unobstructed field of vision, lack of reflections from lenses and freedom from the effects of rain, mist and the like on spectacle lenses are some of the features which may appeal.

Even Football and Skiing

Let us turn to a winter sport, such as skiing. Skiing is one of the most thrilling and yet dangerous of sports. Skill and perfect balance are essential in maneuvering at high speeds; hence good vision is an asset. Ski jumping is even more hazardous and, of course, spectacle lenses are impossible for many reasons. Special nonglass goggles in the form of, or set into headgear have been made and used to prevent snow blindness and to protect the eyes. Then there is the danger of the fast-moving ice particles striking the cornea, producing a disagreeable and painful sensation. I know of two persons who have worn contact lenses when skiing, not because they really needed them to correct visual errors but as a simple and satisfactory protection to the eyes. They place great confidence in them, and the assurance of protection is a relief.

Last fall I made some inquiries as to how many Minnesota football or basketball players wore contact lenses. I learned of ten such players and have their names and addresses in front of me as I write these words. Seven of these wearers of contact lenses played with the Golden Gophers. A month or so ago, having occasion to go once again to the University of Minnesota, I spent a Saturday morning in visits with two of the boys who had made the limelight in athletics—one in football and one in basketball.

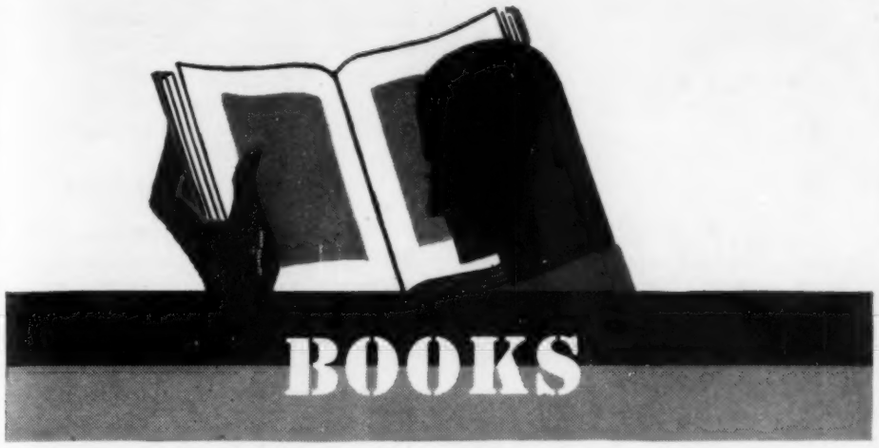
I found my young friend, the basket shooter, wearing his contact lenses and hard at work getting ready for a "powerful" examination, as he called it, on the following Monday morning. He said that, in general, he wore them all day with perfect comfort and that he changed the fluid in the contact lens twice or three times a day. He also had his ordinary glasses at hand but seldom if ever wore them, although on occasion when he went home he used them because he had been forced to wear glasses most of his life and some of the townspeople back home didn't know him "in contacts." Furthermore—for he is a war veteran and married—he said: "My wife likes me much better in contacts." That certainly is a good enough reason for anybody. I had looked up his record for this year's season before visiting with him and said: "Your teammates and the fans call you the wheel horse and the key man and say you played every game of the year. Could you have done it without glasses correcting nearsightedness or with your ordinary spectacles?" He modestly passed over the personal compliments but said: "I don't know how I could have gotten along at all or made any kind of a decent showing without these modern plastic contact lenses."

I left him to his studies and wandered out of his fraternity home, up the street a block or two and into another house full of live-wire university students. After a little inquiry I found the famous Gopher pigskin toter and tosser for whom I was looking. Ordinarily he does not wear his contact lenses but he told me he put them on about half an hour before the game started and wore them without touching them and without any trouble during the full four quarters. He had played in every football game last fall and said with earnestness and conviction: "Without these contact lenses I wouldn't have known a Wildcat from a Golden Gopher, and that would have been just too bad." And as he reminisced about his football days and experiences—for he has played his last collegiate game—he told about the game last fall in which three of the Golden Gophers who wore contact lenses—the center and the guard and the tackle on the same side—were in the game side by side for a portion of the same quarter. Shades of the departed players when three downs, line smashing and five yards for a first down constituted the game! I'm sure they just could not believe that three fast-moving, open-playing and pigskin-heaving lads of Minnesota were wearing contact lenses.

Coming in Hygeia

Skin Eruptions Caused by Drugs

By Lester Hollander, M.D.



A HOUSE IN CHICAGO

By Olivia Howard Dunbar. Chicago: University of Chicago Press. 1947. 288 pp. Cloth. $3.50.

William Vaughn Moody was one of the great names in the cultural life of Chicago and the Middle West. Mrs. Moody was similarly an extraordinary person, who participated wholly in the many intellectual contacts of her distinguished husband. The home of the Moodys became a rendezvous for poets, musicians and other notable personalities who worked in Chicago or who traveled through it. This book tells the story of the family and of the home in which they lived. For physicians there is interest in the fact that Harriet Moody wanted to study medicine and entered the Woman's Medical College of Philadelphia. After a year she discontinued her studies and returned home to enter society. She consented, incidentally, to marry Edwin Brainard, son of Dr. Daniel Brainard, the famous Chicago physician, but her family did not approve, and there were bitter discussions. However, she married Edwin Brainard, and his family settled $100,000 on her to make up for the dowry her father had withheld. The marriage was brief and ended in divorce.

In 1889 she became an instructor of English literature in a Chicago high school. One of her students was Mrs. Edith Foster Flint, later a professor of English literature at the University of Chicago. While teaching school, she heard that Harry Gordon Selfridge, then an associate of Marshall Field, was interested in getting some gingerbread made in the form of little cakes. She began supplying these and later filling orders for chicken salad in six gallon quantities. Soon home catering lead to the formation of the Home Delicacies Association, and orders were received from many of the most important organizations in the Chicago area. This project prospered, so that her income extended beyond her needs and she was able to care for her mother after the family fortune had disappeared.

In the autumn of 1899 she met the young professor who had come from Harvard to teach at the University of Chicago, William Vaughn Moody, whom she was later to marry. In 1901, while on a vacation at Lakeside, Ill., her ankle was badly smashed in an accident. She was rushed to Chicago in a baggage car and operated on by Dr. Lewis L. MacArthur, assisted by Dr. Martin Fischer. Fortunately her foot was saved, but she had to undergo several operations and to learn to walk in a new way.

The story of the Moody home, the many celebrities who were entertained, the letters and the many incidents in these distinguished careers make this a fascinating contribution to American biography.

MORRIS FISHBEIN, M.D.

ESSENTIALS OF PHYSIOLOGICAL CHEMISTRY

By Arthur K. Anderson, Professor of Physiological Chemistry, The Pennsylvania State College, Third Edition. Cloth. Price, $3.50. Pp. 395, 38 figures. 440 Fourth Avenue, New York: John Wiley & Sons, Inc., 1947.

This book has been revised and is primarily written for students of medicine, dietetics, agriculture, home economics, bacteriology and related subjects. It contains many recent advances in biochemistry and several sections have been completely rewritten and brought up-to-date. The volume will be of value to those considering this field.

GEORGE W. COLLINS, SC.D.

MASSAGE AND REMEDIAL EXERCISES

By Noel M. Tidy. Cloth. Price $6.00. Pp. 480. The Williams & Wilkins Co., Baltimore. 1947.

The subject matter includes fractures, dislocations, sprains, stiff joints, synovitis, diseases of the nervous system, lesions of the peripheral nerves, functional nervous diseases, diseases of muscles, deformities of the extremities and spine, diseases of the heart, blood vessels, respiratory organs and abdominal and pelvic conditions. The author tells everything she knows without concentrating on the subject of her book.

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HEALTH in the headlines

BY ELLWOOD DOUGLASS

TOMORROW'S ILLS

The first malady of the Supersonic Age—"jet engine sickness"—has been reported and, for the time being, at least, has proved to be a false alarm. Ear and other symptoms reported by British jet engine pilots and a ground worker testing the engines led to a full-fledged investigation by the manufacturer and the Ministry of Supply. It seemed possible that vibrations above the range of the human ear might have a serious effect on persons in continuous proximity to such engines. So far the results tend to disprove the existence of any such occupational malady but, the London correspondent of the A.M.A. *Journal* reports, the evidence is inconclusive and the investigation is continuing.

COLD WEATHER APPETITES

The general impression that cold weather stimulates the consumption of the "warming" or energy-producing foods has been put to the test in a series of experiments reported in the *American Journal of Physiology*. Experimental animals, allowed a free choice of food, ate considerably more at temperatures of 52 degrees than at 88, and the increase consisted almost exclusively of a greater intake of carbohydrate-rich foods.

BAL

A wartime preparation to counteract the effects of poison gas was found of value in treating one case of lead poisoning reported by a Public Health Service physician in the *Journal of the American Medical Association*. The substance, known as British Anti-Lewisite or BAL, has previously shown promise in counteracting some metallic poisons, but experimental evidence had indicated it was of doubtful and possibly adverse effect in lead poisoning. Where effective, it operates by combining with the poisons more rapidly than do the tissues. The metals, thus bound in a harmless combination with the BAL, are then eliminated in the natural body processes without damage.

In the case reported, BAL was used only in the period of convalescence after the acute symptoms had responded to orthodox treatment. Laboratory examination disclosed that virtually none of the lead, which is a cumulative poison, was being eliminated. After intramuscular injections of BAL, the elimination of lead in the urine rose markedly and eleven days later another course of BAL was given with similar effect. These results, the physician considered, indicated that BAL might deserve a further trial in lead poisoning as an aid to diagnosis by analysis of the urine and for its apparent effect in "deleading" the patient.

WHO'S BACKWARD NOW?

American Brotherhood Week begins on Washington's Birthday. Not necessarily in that connection, I've had no end of simple pleasure from the following thought for a superior race —any superior race: Hopi Indian children, *Holiday* reports, have an average I.Q. of 112.

IODINE AND LACTATION

Inability to nurse the baby at the breast may arise from a lack of iodine in the mother's diet, a British woman physician writes in the *Lancet*. The immediate cause, she judged, was a deficiency in the output by the thyroid gland of thyroxine, which contains iodine. Administration of thyroxine or the dried gland enabled many mothers to nurse their babies. But the trouble seemed to be due to a lack of iodine and not to a deficiency in the gland itself, for administration of iodine increased the breast milk in every case so treated.

NOT INFALLIBLE

Some caution regarding leukotomy, a brain operation which was introduced some years ago in mental conditions otherwise apparently incurable and has attracted attention again in the last year, is expressed in an analysis published in the London *Journal of Mental Science*. Although many patients are enabled to return to satisfactory activity and more are freed from their worst symptoms, the author reported three cases in which the patient's condition seemed worse after the operation. He urged that it be appraised, in the individual case where it is contemplated, by a sober consideration of all its consequences.

CANCER DIAGNOSIS

The technic used in the widely publicized method of diagnosing cancer by examination of the cells in vaginal smears has been extended to diagnosis of cancer in the bladder, rectum, stomach and bronchial tubes, two investigators have reported in *Surgery, Gynecology and Obstetrics*. They said that the method had been profitably applied to cells found in the mucus obtained in bronchoscopic and gastroscopic study.

AGE OF UNREASON

Pigs, rats, monkeys and newly weaned infants, confronted with a wide variety of foods, instinctively select a good diet—but not human beings who have reached the age of "reason," a physician writes in the *New Zealand Medical Journal*. The commonest form of human obesity, he says, is due primarily to psychologic causes. We are so assailed by rationalizations based on false notions, prejudices and sales propaganda that any capacity for "instinctive food selection" has long since gone by the board.

PATIENT'S FRIEND

Sometimes one of the more baffling things about being ill is that the physician tells us so little about it. We are examined from head to foot or microscopically or both; subjected to various forms of treatment and instructed in complex rituals of home care, but why?—often we do not know. The doctor is a busy man; he has therapeutic reasons for abstaining from eloquence, at least, on what ails us; but on the other hand the human imagination can create ills far beyond the worst capacities of the human carcass. Also we like to know; one of the prime methods of the quack is to give us, at once, an impressive, dramatic and plausible disease to explain the symptoms. Fortunately more and more physicians are learning that some understanding of the condition gives assurance as well as a positive basis for following instructions, and lately no less a figure than the president of the Norwegian Medical Society, Dr. H. J. Ustvedt, has issued an admonition to his colleagues on the subject. He, or the Oslo correspondent of the A.M.A. *Journal*, who reported it, put it in a quotation:

"Set not up your horn on high, and speak not with a stiff neck."

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